TEACHER EDUCATION CURRICULUM

A Framework

prepared for

National Council for Teacher Education (

National Council of Educational Research and Training

Contents

Foreword

THE success of any educational reform depends on the quality of teacher which, in turn, depends to a large extent on the quality of the teacher education programme In our case, the educational reforms being urgent, it is essential to develop national consciousness regarding necessary improvements to be brought about in teacher education

A few years ago, the Government of India constituted the National Council for Teacher Education (NCTE) to advise the Government on matters relating to teacher education. This Council in its annual meeting held in March 1976 desired that a joint session of the UGC Panel on Teacher Education and the relevant committees of the NCTE may consider and recommend suitable reforms in the programmes of teacher education.

In this connection the UGC Panel on Teacher Education held one National Workshop at Simla in May 1976 and another Regional Work shop at Madras in November 1976 Moreover, a joint session of the UGC Panel on Teacher Education and the relevant committees of the NCTE was held in June 1976, which recommended that an Approach Paper on Teacher Education may be developed for discussion at a National Conference to be held later. A small committee consisting of some experts in Teacher Education was consequently appointed to prepare an Approach Paper

The paper was then circulated widely to invite opinions, comments and suggestions from academicians and experts in Teacher Education and School Education including the members of the UGC Panel on Teacher Education, the members of the concerned standing committees of the NCTE, Principals of the Regional Colleges and the State Boards of Teacher Education in the country Later a National Conference on Teacher Education was convened at New Delhi under the joint auspices of the UGC and the NCTE in February 1977 to discuss the approach paper and also the reports of the two Workshops on Teacher Education sponsored by the UGC The Conference took due note of the opinions, comments and suggestions received from various quarters regarding the approach paper At the conclusion, the Conference authorised the Committee of Experts which had drawn up the approach paper to give the final shape to it in the light of the views expressed and the suggestions made by the participants in the Conference In response

to a suggestion made by a number of participants to elaborate and concretise the concept of "Working with the Community"—a new area of Teacher Education recommended in the Approach Paper—a small committee of those who have had actual experience in the field was appointed This Committee met in March 1977 and spelled out the concept of "Working with the Community" in concrete terms The Committee of Experts while finalising the framework of Teacher Education Curriculum took into consideration the recommendations of the Committee on "Working with the Community" as well as the observations made by the participants in the National Conference

During September 1977 a National Seminar, jointly sponsored by National Council for Teacher Education and Akhil Bharatiya Nai Talim Samiti, was held at Sevagram in which the Framework on Teacher Education was also discussed The Seminar made certain recommendations which were again considered by the drafting committee All the suggestions made by this Seminar have been incorporated at appropriate places in the Framework.

The National Council for Teacher Education wishes to place on record its gratitude to the numerous educationists who have contributed to the making of this document, particularly to the experts who were involved in the preparation of this document as well as the members of the Committee on "Working with the Community" A special mention has to be made of the guidance given by Prof Rais Ahmed, ex-Director, NCERT, who as the ex-officio Secretary of the NCTE took interest in this work from its very inception, and guided it with great ability up to its completion

A special mention has to be made of Dr Salamatullah, Consultant, DTE and Dr. P.N Dave, Prof. in Education, RCE, Ajmer, who took great pains in writing this document and editing it several times.

We also acknowledge the contribution made by Shri C.L Sapra and Dr. C S Subba Rao in the preparation of this document.

We also acknowledge the valuable help extended by Dr. S.N. Panda in helping Dr. P.N. Dave to write this document.

Shri M M.L. Dewan, Special Assistant in the NCTE Secretariat, deserves a word of appreciation for being deeply involved with the development of this document and organising the National Conferences successfully.

It is hoped that this document will serve as a useful guide in reconstructing Teacher Education in our country in the years to come

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New Delhi
1 January 1978

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ERRATA

Page	Line	Change
6	7	Add "of" between "history" and "Nagas"
12	15	Add after "vide both" "theoretical and empirical challenges to researches in"
16	8	Delete "Common Techniques of Teaching"
17	1st line of 4 1 3	Read "considering" instead of "evaluating"
19	1	After "developed" add "as a"
21	Col 5	In place of "B 25%" read "B. 75%"
22		Portion D of Column 4 to be read as portion D of Column 3 Also the percentage mark between "72 and credit hour" to be treated as deleted
24	12	After "A few projections" add "regarding graduate courses"
25		Heading to read as "Structures of Primary Teacher Education Programme" Item No 3 of Column 2 to be substituted by "Special courses according to the needs and facilities available"
26	Col 2	Item No. 7 · Instead of "10%" read "5%". Item No 12 to be read as "Related Practical Work (10%) (Modified Conventional Type)"
	Col 6	Item No 6, second line After "Programme" add "package for" At the end of the item add "(50%)"
28	2	After "school" add "The improved structure of this programme is presented in Table III".
29	4 6,8	Third line Delete "the different models of" and add "programme" after "education" Instead of "Model I" read "Structure I".
30	4	Instead of "Suggested Courses" read "Courses with Weightages"
31	Col 4	Items 7, 8 & 9 · Add "(20%)", "(10%)" and "(10%)", respectively, at the end.
32		Instead of "Model II", "Model III" and "Model IV" read "Structure II", "Structure III" and "Structure IV".
33	Table V	Instead of "Suggested Courses" read "Courses with Weightages"
43	11 from bottom	Add "grades" after "awarding".
49	19	After "courses" add "may be offered as credit hour courses".
50	11	After "levels" add "instead"
	3 from bottom	Read "Hence" instead of "Thus"
53	8 3·3	After "Early primary school" add "leavers"
59	11	Add "stage" after "collegiate"
60	2	Add "and/or" after "morning".
63	3	After "week for" add "practicals and"
	28	After "standard" add "X".
	30	Read "44" instead of "54"
64	24	After "physiological" add "psychology"
	6 from bottom	Read "situations" instead of "education".
65	6 from bottom	Read "5 5·1, 5·5·2 and 5 5·3" instead of "5 5, 1·5 5 3"

Introduction

1 1. The major weaknesses of the existing system of professional education of teachers have been repeatedly pointed out by the University Education Commission (1949), the Secondary Education Commission (1953), the International Team on Teachers and Curricula in Secondary Schools (1954), and have also been highlighted by the Education Commission (1964—1966). The detailed reports submitted by the various visiting teams of the working groups set up by the National Council for Teacher Education (NCTE), after having screened through extensive data backed up by on-the-spot observations of sampled teacher training institutions, have reaffirmed these observations (1975). The recent UNESCO publications entitled *Alternative Structures and Methods in Teacher Education* (1975) and *Exploring New Directions in Teacher Education* (1976) have also identified similar weaknesses not only in the existing Indian teacher education programmes but also in those of Malaysia, Philippines, Nepal, Thailand and some other developing countries.

1·2. It has been observed that, although nomenclatures have changed such as 'Education' instead of 'Training', the system in practice has by and large remained unchanged. The existing system appears to be static and rigid to cope up with the new national goals. It provides the student-teacher very little awareness of the role education can play in transforming the present Indian society into a truely democratic, socialist and secular society that we wish to build up in this country. As the Education Commission (1964—66) remarked, vitality and realism are lacking in the curricula, and programmes of work continue to be largely traditional. Even in a limited area like methods of teaching, the teacher-educator fails to impress upon the trainee about their usefulness and applicability, as he himself rarely uses any method other than the 'talk-and-chalk' method. Set patterns of lesson planning and rigid techniques of teaching are followed in practice-teaching, regardless of the nature of the subject-matter and the objectives to be achieved in terms of behavioural changes. Evaluation procedures, specially those

followed for assessing the competencies of the would—be teachers, are by and large, subjective and unscientific seeking to find out mainly how successfully factual knowledge has been memorised Generally, not enough competent people are attracted to teacher training institutions, nor do the staff attached to those institutions make sufficient and substantial efforts to raise the image of 'Education' as a discipline in the eyes of their counterparts working in other institutions.

Whatever be the reasons, as has been observed by the Education Commission, teacher training institutions stand isolated from the main stream of the national life, from the academic life of the university, from schools, from one another, and what is most serious, from the very community which they are supposed to serve. The isolation from the community at once acquires the greatest significance in view of the changed political and socio-economic situation in the country

1·3. No active and sensitive citizen can be unaware of the political and socio-economic changes taking place in the country The Constitution of our country is the reflection of people's collective will ; and as such, it demands a fundamental change in our outlook, and in ways and means of achieving the goals laid down in the Constitution. If education is meant for national development which in our country can be achieved mainly through rural development, it must become an instrument of transforming the social structure, as envisaged in the Constitution Education, first of all, must reach all citizens particularly in the rural areas, irrespective of their caste, creed, class and social status. Universalization of education, thus, has become the most important task to be undertaken by the teaching community This immediately demands that a fundamental change be effected in all aspects of Teacher Education, i.e , objectives, structures, curricula, methods, modes and media, evaluation techniques, staffing pattern, administrative machinery and control of teacher education in the country, so that the objectives spelled out in the documents entitled "The Curriculum for the Ten-year School and Higher Secondary Education and its Vocationalization (NCERT)" could be attained. It is pertinent to note here that the Chairmen of all State Boards of Secondary Education in this country, who met at Trivendrum in December 1976, have accepted the 10+2 pattern, and agreed to move in the direction recommended in the Framework. The recommendation of the Education Commission is unequivocal in this regard, which reads as follows :

> A sound programme of professional education of teachers is essential for the qualitative improvement of education. Investment in teacher education can yield very rich dividends because the financial resources required are small when measured against the resulting improvements in the education of millions

Since it is indeed a question of educating millions, particularly those growing up in the socially and economically deprived communities,

a drastic change in the entire existing system of Teacher Education is overdue In this paper, an attempt is made to develop broad outlines that could provide a frame of reference for preparing programmes and curricula according to the local requirements and resources, for innovating suitable methods, modes and techniques of teaching different groups and for evolving appropriate procedures of evaluation to assess the efficiency of Teacher Education on a continuous and comprehensive basis.

II

Salient Recommendations

2·1. Relevance of the Curriculum to the Personal and Social Needs of Children and Schools

As mentioned earlier, education must become an effective instrument of social change and, therefore, the teacher has to be an agent for this transformation. This necessistates that the education imparted has relevance to the personal as well as social life and needs and aspirations of the people. It is in this context that the relevance of the curriculum of teacher education should be viewed. Correspondence between the school curriculum and the teacher education curriculum has to be brought about, which has been so far neglected. In order to be a catalyst in the process of developing a citizen who is productive, believes in social justice and national integration, and possesses values befitting a democratic, socialist and secular society, the teacher himself needs to become such a citizen through appropriate learning experiences.

This requires that the pedagogical theory should reflect our national ideology and the problems and issues that our society is facing today Discussion of these will create in the student—teacher awareness of the national scene and sharpen his social sensitivity which may, in turn, have a similar impact on the children. The content and methods of teaching all the courses will have to be made relevant to Indian conditions. Further, strategies and approaches of teaching the children inside and outside the classroom, i e,, for formal and non-formal education, will have to conform to their physical and social environment. It is indispensable that the environmental studies emerge from our own surroundings. The fact of the matter is that the provision of work-experience, health, physical and recreational education as well as vocational education cannot be accomplished effectively without taking into account the local needs, requirements and, of course, human and material resources.

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2.2 1. Flexibility within the Framework of Acceptable National Goals and Values

If teacher education has to become relevant to the life, needs and aspirations of the children and the community to which they belong, it is imperative that it becomes flexible   The rigid and unrelated programmes of teacher training existing at the pre-school, the primary, the secondary and a few at the collegiate level under the control of different agencies will have to be changed   If the isolation of teacher training institutions has to be broken, particularly from one another, then it is inevitable that a system of teacher education be so developed as to make for the mobility of entry and exit of a teacher-trainee at different stages of teacher preparation.

Flexibility is urgently required not only to break the barriers between the stagewise teacher education programmes but also between different disciplines   Education, in order to develop itself and to gain status as a discipline, has to bring other disciplines into its fold. This means that a teacher-trainee should have freedom to move from one discipline to the other without much loss of time and efforts already put in by him at a particular stage of his education. If the courses in education, as recommended by the Education Commission, are introduced at the undergraduate level and at the +2 level as envisaged in the NCERT document on vocationalization, it is pertinent that horizontal and vertical mobility is built in the system itself (See 8 2.1 in Chapter VIII).

2 2·2. Flexibility for Relevance

As this paper makes an attempt to develop guidelines for organizing teacher education in India, it appears rather paradoxical to talk about flexibility for relevance in particular. It has been convincingly argued in the Curriculum for the Ten-year School that 'with the rapidly expanding frontiers of knowledge in science and technology and socioeconomic conditions of our country, the relevance (without flexibility) is likely to be short-lived'. Therefore, while these broad and comprehensive guidelines may provide the framework for the overall development of teacher education in India, it should be possible to develop multiple teacher education modules* catering to the needs of the States and the local communities within each State. This is unavoidable, as has been well argued in *The Curriculum for the Ten-Year School.*

> For a vast country like ours with its diversity of languages, social customs, and uneven economic development, the needs and demands of the individuals and the society will have differential pulls on the school curriculum varying from one region to the other.

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*A module here is defined as self-contained and independent teacher education programme which, although keeps its affiliation to the overall objectives of teacher education in the country, keeps its focus primarily on specific and well—defined objectives of socio-economic milieu present, in the immediate environment, i.e., a community village, a city, a state.

For example, a course in psychology can be included as a core subject under theory for all teacher trainees in the country (forming a part of the overall structure). However, a course in sociology, particularly as a study of mores and traditions in the historical background may form a core course for a specific region/area, depending upon the location of a particular teacher training institution (thereby forming a part of a module.* In other words, the tribal history Nagas or Mundas or Santhals may constitute a core course for the respective regional training institution, whereas the same may be an optional course for teacher training institutions in other regions. Flexibility for relevance acquires greater significance, when one thinks of teaching modes and methods specifically for non-formal education and of providing variety of learning experiences to teacher trainees in order to make them initiate social action for the necessary transformation of the society This, doubtless, has to take place in a particular social milieu ; hence ; the flexibility in terms of relevance

2 2 3. Flexibility for Continuing Education

It is felt that there is a need to refresh the content and methodology that teachers use from time to time However, effective ways and means and an effecient organization for attaining this goal have yet to be found out. Efforts to organise these programmes through the extension departments of teacher training colleges have not paid expected dividents, although some gains have been noted in the programmes run by the erstwhile Directorate of Extension Programmes for Secondary Education There is an urgent need to develop a system so flexible that the continuity between preservice and inservice education of the teacher is properly maintained. This, to start with, requires a flexible relationship among the agencies controlling teacher education, viz. state departments of education, universities and state boards of teacher education. It also demands that whatever procedures may be adopted for upgrading the inservice education of the teacher, formal (contact) or non-formal (correspondence) or a combination of both, rewards in terms of university diplomas promotions in the service or financial benefits must be forthcoming In short, the individual's initiative and efforts of continuing his education must be given recognition. Only an administratively and academically flexible system having a wide range of alternative teacher education modules could help achieve this end.

2 2 4. Flexibility for Mobility

The curriculum for different stages of teacher education should be

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*A module here is defined as a self-contained and independent teacher education programme which, although keeps its affiliation to the overall objectives of teacher education in the country, keeps its focus primarily on specific and well defined objectives of socio economic milieu present in the immediate environment, i e., a community— a village, a city, a state.

so organized that it permits mobility, both horizontal and vertical, of the trainee. By *horizontal mobility*, it is meant that a student entering the university to pursue his undergraduate study should have the freedom and opportunity to move from one discipline to another, if he so desires without sacrificing much of his time and efforts For example, if a university offers courses in sciences, humanities, education, commerce, technology, etc., the system ought to be so organised that a student is able to make entry from one into another area of disciplines without sacrificing much of his time and efforts. *Vertical mobility* means that, if education courses are offered for different stages of teacher education, i e. from the pre-school to the post graduate level, a student has the freedom to move from one stage to another again without much loss of his time and efforts. It is possible to achieve both horizontal and verti- cal mobility if credit-hour courses in various disciplines characterising the semester system are offered under one comprehensive institution or a cluster-complex of institutions. Needless to mention, such a system will offer sufficient flexibility to students of varying needs, abilities and aspirations to pursue their studies. Thus, it should be possible for a student to enter and leave the system at different points. Special atten- tion needs to be drawn towards the fact that education under such an arrangement will have plenty of scope to grow and develop into both an academic discipline and a task-oriented professional training. Since it is firmly believed that education has potential to grow into both, no effort should be spared to exploit the possibilities to the maximum. (See 2·5 also).

2.3 Interdisciplinary and Integrated Approaches in Teacher Education

Attempts to develop interdisciplinary research even at the highest level, i e., university departments and special research institutes, have not been very successful It is with dismay that one observes that co- operation and communication among social scientists have not been easy and productive If this is the state of affairs in the area where the tasks are well-defined, it is certainly far more difficult to achieve this in an area where the tasks are not so clearly defined. It is generally realized that it is not an easy job to bring about integration of facts and concepts belonging to different disciplines, even though they may have some common bonds. Yet, this is the need of the hour. It is high time that a serious effort is made to move away from isolated subjects towards their integration. The teacher-trainee should be exposed to a curriculum in which environmental problems are identified, and then a thorough analysis of the problems is attempted through participation and active interaction between the teacher-educator and the trainee, discovering for himself how philosophical, psychological and sociological principles

operate. That such integration does not automatically take place in the minds of individual-young or old-must always be borne in mind. It means that special efforts have to be made to develop such an ability in the trainee Therefore, the entire teacher education curriculum should be so designed that integration among theory courses takes place, and this integrated pedagogical understanding flows into the skill-dominated areas of methodology of teaching various subjects as well as into the attitude building areas of work-experience, health, physical and recreational education, alongwith social service

2.4.1 Education as a Discipline

The Education Commission (1964-66) has made a strong plea to develop education as a separate academic discipline in order to break the isolation of teacher education from the universities It stated : —

> Our first suggestion is that education should be brought into the main-stream of the academic life of the universities In India, the general trend has been to identify education with pedagogy It has been taught mostly in training institutions and is studied only by those who decide to enter teaching profession, after such a decision has been made In the educationally advanced countries, however, education had developed considerably as a social science and a separate academic discipline. The realization that education is an instrument of change-social, political and economic—is having far reaching implications, not only for education as an intellectual discipline of great scientific and philosophic import, but for other disciplines as well. It is also worth noting that philosophers and social scientists have begun to give special attention to education as an important part in their fields of study. We therefore, recommended that in view of the increasing scope and importance, 'education' should be recognised as a social science or an independent discipline

It is necessary to note that the Education Commission has recognised the potential of education to develop into a discipline as well as pedagogy. It is precisely for this reason, that the idea of running parallel courses in various disciplines including education under the same roof has been recommended and expanded while explaining 'Flexibility for Mobility (2.2 4). It is presumed that there is ample scope for offering a variety of education course as core or special courses. One can envisage a student pursuring his study of education as a discipline right after standard X to the post-graduate level. Similarly, another student can pursure a series of courses in the area of task oriented training to become a teacher at a particular level This is not the place to elaborate this dual-concept. All the same, it is hoped that according to the guidelines given here, while training institutions around the country would be able to formulate various task-oriented training programmes with less emphasis on eduction as a discipline, university departments would develop a variety of education courses that may be pursued as a discipline. This indeed is not only an open field, but a challenging one Therefore, it requires serious attention of the university experts in the field, particularly, as it is bound to be inter-disciplinary in nature

2 4.2 Task-oriented Teacher Education

As has been remarked by the Commission, education has been mostly identified with pedagogy, and for all these years teacher training institutions have been emphasizing training aspect more than the discipline aspect of education   However, training aspect also needs modification in view of the recent developments in the field It is, therefore, necessary to elaborate the task-oriented (performance-based) teacher education   The very nature of teacher education, its study and practice, in particular, until now, demand that it be treated more as an exercise of training a teacher for handling a variety of tasks inside and outside the classroom, may they be of identifying the objectives of teaching of a given subject matter, communicating an idea, demonstrating an experiment, making a film-strip, taking the children on a field trip, guiding an emotionally disturbed child, winning over the confidence of the parents of an under-privileged child, playing the role of leadership in tackling problems relating to family planning, pollution, delinquency, and so on   It goes without saying that one requires an enormous amount of training to be an accomplished technician to handle such and similar tasks.   If ever teacher education were to be successful in analysing its goal into a series of concrete and hierarchically graded cognitive and socio-national tasks to be accomplished by the teacher-trainee, then it would have found out not only a meaningful but also an indispensable man-making process Lest this point of view should be misconstrued, it is pertinent to note that the theory courses shall form part and parcel of the programme However, the nature of these courses would be substantially different as it is the application of principles in teaching and learning that will be emphasized rather than the theoretical understanding of the principles enunciated in a particular discipline.

2.4.3 Practice Teaching/Internship

The training of student teachers is carried out at present under two nomenclatures, i e , practice teaching and internship. Neverthe-less, there is little evidence showing qualitative difference between them. Internship is certainly a more comprehensive concept and its introduction in teacher education in India was aimed at enlarging the scope of experiences needed to prepare a more competent teacher. It was also envisaged that such experiences in realistic situations would faciltate, if not accelerate, the process of socialization of a teacher and minimise the time, energy and efforts spent in on-the-job learning.   However, in actual practice, except in a very few cases, internship programmes have hardly gone beyond what is being done under practice teaching. Since a strong recommendation has been made for developing a task-oriented teacher education system, it is imperative that practice teaching should be more realistic and suited to the actual classroom situation   It would be quite helpful if teacher training institutions at all levels adopt a variety of simulating practices. It is

necessary to emphasize that it would be to our definite advantage if a student teacher is put through a series of simulating, micro-teaching situations before he is pushed into an actual classroom. It is believed that this kind of pre-service training would certainly help reduce the number of lessons required to be delivered and supervised in schools, and also minimise the interferance in the usual work of cooperating schools by student teachers It is reasonable to believe that such student teachers would be in a better position to handle the real classroom situation. For this purpose, the teacher educators should themselves participate in classroom teaching in the cooperating schools to have first-hand experience of the actual conditions prevailing in the schools This would also serve as demonstration of good teaching practice for the benefit of the trainees. Every teacher training institution should have one or more cooperating schools which should be used for practice teaching by the trainees. The teaching staff of the cooperating schools should also be associated with the teacher training programme.

2.5   The Semester System

It is strongly felt that the implementation of all the above recommendations will be almost impossible, if a fundamental change in the organization of courses does not take place. The rigid system of the yearwise courses will have to be replaced by the semester system. Each semester should consist of not less than 120 full working days, including examination days The introduction of a short one-month summer semester may also be considered. But this is not enough, for, a semester course can become just as rigid as a traditional one-year course. What is needed is innovation in devising content and education courses—core as well as special-for teachers of the pre-school, primary, secondary, higher secondary and collegiate levels. These courses will have to be offered in terms of credits. the details of which can be worked out by each institution or university itself The requirement for earning a certificate, a diploma, or a degree may he specified in terms of a certain number of credits. Further, specification may be made in terms of percentage of credits for each of the area of study required for the award of a diploma or degree. It is also desirable to offer these courses in the same institution, be it a university, a state institute of education or a college of education. This will permit mobility, horizontal and vertical, giving scope to the individual to enter and leave courses to suit his needs and convenience.

2.6   Evaluation

There is no need to repeat here the criticism made against the evils of the traditional one-shot-a-year examination It is sufficient to say that teacher training institutions, instead of seizing the unique opportunity of becoming pioneering pacemakers, have followed the traditional methods

of evaluation. For example, the practice of external examination even for evaluating teaching performance at the end of the year, again a one-shot affair, by an impersonal external examiner, is being continued by most of the universities. Internal assessment for both theory and practice teaching- a step intended for reforming our evaluation system for attaining the goal, 'one who teaches also evaluates' has not been considered as yet a practical proposition

The new emphasis on the development of socio-emotional characteristics of the teacher-trainee and performance-based teacher education makes it obligatory that a reliable and valid internal system of evaluation is developed   The focus has to change from assessing, to 'guiding'   In other words, assessment should not become a goal in itself. It should remain a means to check whether a desirable development in the teacher-trainee has taken place or not   In order to achieve this goal, evaluation has to become continuous, and a variety of modes and means of collecting reliable and valid information regarding the comprehensive growth and development of the teacher-trainee should be adopted. While formal tests and examinations may be given due place, more emphasis should be placed on observations of evidence of growth during the process of education   A sort of clinical approach with a warm and personal touch should be introduced in place of the so-called impersonal and objective normative approach of measuring personality traits.   It is the profile of a teacher-trainee that should emerge in action as well as on paper as a consequence of learning experiences provided in the training institutions. While it may be necessary to follow both internal and external assessment for some time, the goal should be to make it completely internal as early as possible   The internal and external assessment should be shown separately and not added together into a single aggregate.

2.7   Experiments, Innovations, and Research for Development

The weakest spot in the entire gamut of teacher education has been research and experimentation.   This is primarily because the Indian researcher in education has been generally using tools and instruments of research without considering their suitability to the local conditions   Consequently, it has become more a fashionable, theoretical exercise rather than a practical pursuit for finding solutions of our educational problems. The time is ripe for identifying urgent problems clamouring for their solutions, and for developing original theories, concepts, measuring instruments and appropriate evaluation techniques, so that empirically validated models and modules of teacher education could be indigenously developed.   Should the development of indigenous theories of teacher education be the goal, it is essential that the kind of experiences and training to be provided for researchers should be made available from the initial stage of teacher education, i e., the pre-school stage.   In other words, elements

of research methodology should form a part of the total curriculum of teacher training. The teacher trainee should be provided with experiences that would make him aware of the possibilities of testing hypotheses, verifying the efficacy of certain practices related to the teaching-learning process in day-to-day situations, using various scientific methods, such as, observation, case history, action research, experimentation etc The purpose here is not to make him a researcher but to develop in him a systematic and scientific way of thinking and looking at the task he has to undertake, and of executing it with an unbiased and objective attitude None the less the possibility of some of the student—teachers blossoming into expert research workers should not be ruled out. The courses under the two systems should provide scope for this, because mobility is built-- in the administrative and organisational structure, as is already indicated Implementation of the recommendations made in this paper should provide both education in India at national as well as regional levels.

III

General Objectives of Teacher Education

3.1 For too long, in our schools, colleges and even in teacher training institutions, the cognitive goals of instruction have been over-emphasized Although the teacher is supposed to look after the total development of the personality of the child, his training programmes had rarely included educational experiences that could enable him to stimulate the socio-emotional and moral development of the child It is envisaged that the teacher should play the role of leader inside and outside the classroom, initiate action for the transformation of society as an agent of social change and thereby help achieve the goal of national development Therefore, the emphasis has to be given not only to the cognitive objectives but also to those pertaining to the development of attitudes and values Accordingly, the following major objectives are suggested which may be kept in view at all the stages of teacher education

The future teacher should :

3.1.1 Develop Gandhian values of education such as non-violence, truthfulness, self-discipline, self-reliance, dignity of labour

3.1.2 Perceive his role as an agent of social change in the community.

3.1·3 Perceive his role not only as a leader of the children but also that of a guide to the community.

3.1.4 Act as a liaison between the school and the community, and employ suitable ways and means for integrating community life and resources with school work.

3.1.5 Not only use but also help in the conservation of environmental resources and preservation of historical monuments and other cultural heritage.

3.1.6 Possess warm and positive attitude towards growing children and their academic, socio-emotional and personal problems, and skills to guide and counsel them.

3.1.7 Develop an understanding of the objectives of school education in

the Indian context and awareness of the role of the school in achieving the goals of building up a democratic, secular and socialist society.

3.1.8　Develop understandings, interests, attitudes and skills which would enable him to foster all-round growth and development of the children under his care

3.1 9　Develop competence to teach on the basis of the accepted principles of learning and teaching

3.1.10　Develop communication, and psychomotor skills and abilities conducive to human relations for interacting with the children in order to promote learning inside and outside the classroom

3.1.11.　Keep abreast of the latest knowledge of the subject-matter he is teaching and the techniques of teaching the same

3 1.12　Undertake action research and investigatory projects.

IV

Stagewise Objectives and Structures of Teacher Education

4.1 General Considerations—Theoretical and Practical

It has been stated previously that there is an urgent need for breaking the barriers existing between the stagewise teacher education programmes to maintain the continuity of teacher education and also to remove their isolation from one another   Since the major task of education is to prepare a citizen who will share the responsibility of building up a democratic, secular and socialist society, this man-making process must start right from the infancy and continue uninterrupted up to the adulthood   Thus, its very nature suggests that it is a composite responsibility of the entire teaching community, regardless of the fact that different individuals are engaged at different stages to carry out the task.   This has serious implications for formulating teacher education programmes. It is obvious that one could conceive of a broad comprehensive model of teacher education which may contain certain components common to all stages, while some other components may differ from stage to stage   In functional terms, the general objectives spelled out in Chapter III could be, for convenience, grouped into three major theoretical and practical areas, viz , (A) Pedagogical Theory, (B) Working with the Community, and (C) Content-cum-Methodology of Teaching School Subjects and Practice Teaching.

4.1.1 Rationale for Developing Pedagogical Courses

It is possible to develop a variety of core and special courses for the various stages of teacher education.   Separate consideration may be given to rural and urban needs   These courses would comprise the subject-matter drawn from different natural and social sciences which could provide the trainee with fundamental knowledge and understanding of our social structure and its evolution through the ages, national goals, human nature, physical, mental, emotional and social growth and deve-

15

lopment of the children from neonate to adult age, learning, memory, attitudes, human relations, etc. It is suggested that a core course "Teacher Education in Emerging Indian Society" intended to develop an understanding of his obligations to the nation in general and to the community in particular as a teacher may remain the same for all stages, although the major principles might be explained with numerous local examples. Similarly, another core course "Core Training Programme Common Techniques of Teaching Package" containing common techniques of teaching could also be common to all stages, At the same time, special courses may differ from stage to stage and consequently, be so designed that they cater to specific needs and requirements of each stage. For example, while a course on the growth and, development during the infancy and childhood could be a part of the curriculum for the pre-school level, a course on adolescent psychology would be relevant to the teacher working in a high and/or higher secondary school. It needs to be underlined that the syllabus framers, textbook writers and resource book authors would take special care to make use of local data, resources and research findings without sacrificing the universality of fundamental concepts (ideas) of the discipline enunciated in their writings. For illustration, principles of maturation should be stated in universal terms, but specific examples should be given from noteworthy reports published in local papers, magazines and from major findings of the studies about Indian children reported in research journals.

4.1.2   Rationale for Working with the Community

Limitations of the theory courses in helping to develop the right kinds of attitude, appreciation and values are too obvious to comment upon. In order to reinforce theoretical learnings, actual life experiences need to be provided to the teacher-trainee so that he may verify and validate his theoretical knowledge. As a matter of fact, our educational process fails to put our trainees on road to discovery by providing concrete experiences such as observing, perceiving, investigating, doing etc. More often than not, the trainee at all stages of his education, is subjected to aural impressions and to a limited extent only with sensory-perceptual images or practical experience of working with the people. It is strongly felt that the teacher-trainee be exposed to complex socio-economic problems through actual work situations in society. He should have firsthand experience of the things described in the books as far as possible. It is believed that only through this type of practical training can he grow and develop his insight into, his sensitivity to and attitude towards social problems requiring solutions ; further, it can help to develop his communication and practical skills in dealing with the people belonging to different socio-economic groups

It is one thing to propose a novel and noble idea, but it is altogether a different thing to implement it   One is at once seized with anxiety that this innovation too may meet the fate of similar national service programmes that have been mooted and tried out in the country since independence. Then, it is all the more necessary that this part of the teacher preparation programme should be worked out with extraordinary care.   That, it has a great potential and tremendous possibilities, no one can deny   But it is no less important to plan out this programme in greater details, specifying clear-cut objectives and converting them into step-wise tasks   The teacher training institutions have a crucial role to play in identifying, and making an inventory of a variety of work situations that exist in the social and natural environment, in providing for the trainee the requisite information regarding the work, its purpose and the schedule and in preparing him for the work by giving him intensive training in skills in micro and simulated situtions followed by a series of sessions of discussion for integrating theory and practice.   Attention needs to be drawn to the fact that the recommendations regarding *flexibility, releavance and integrated approach* cannot be over-emphasized in this content   All learnings can be concretized more meaningfully with the help of work situations existing in the immediate environment No wonder that one can make meaningful use of different types of local situations in order to achieve the same goal.   It is assumed that work situations are so exploited as to derive the maximum benefit for the new areas of work-experience, moral education, art education, music, health, physical and recreational education, vocationalization and environmental studies   In the area of environmental studies, one can think of, for example, work situations of collecting flora and fauna from a lake, a river, a forest, a mountain, etc , of taking help from and working shoulder to shoulder with those who make their living by carrying out these activities, of collecting folk lores and songs, of learning folk dances, again rubbing shoulders with the people, of treating pollutants, of working with self-employed artisans, mechanics, carpenters, etc , of launching programes of non-formal education for adults and school drop-outs, of cleaning immediate surroudings, and so on   It should not be lost sight of that the criterion of selecting work should be the scope it lends to the teacher trainee to come in close contact with people, particulary with those belonging to the under-privileged sections engaged in productive work for their livelihood in the nearby community. Needless to emphasise here that these types of experiences will perhaps be ideal to prepare him for imparting non-formal education.

4.1 ?   Rationale Underlying Content-cum-Methodology Courses

There are several points of justification for evaluating this aspect of teacher education, (1) As mentioned earlier, the methods are preached but rarely practised, (2) Advances in educational technology demand

a change in methods :   (3) Methods are meaningful only when they are taught in relation to the content or the subject matter.   (4) A significant portion of the curriculum at the 10 and the +2 level, i e., work-experience. health, physical and recreational education and vocationalization demands the introduction of new content and unconventional methods.   (5) There is a need for integrating different subjects by way of developing inter disciplinary units in order to save time and to make teaching more meaningful.

Even though severely criticized, this area does not pose as difficult problem in providing general guidelines for its organization as the other two, since a lot of information and experience are available to us. The major hurdle has been the implementation of good practices rather than the dearth of them.   It is felt that the theory portions of these courses should be drastically reduced, if not altogether dispensed with.   It will perhaps be better call them training programmes rather than courses.   Attempts should be made in the direction of developing variety of package programmes which, too, follow the lines suggested for the theory courses. It would be creditable to our profession, if the Indian teacher-educators could identify essential skills to be developed in the teacher-trainee and classify them as (1) core skills indispensable for all types of teachers, and (2) specific skills necessary for teaching different subjects at the different age levels   For example, a core training pakage may comprise skills, such as identification of the behaviour under-lying conceptual learning, blackboard writing, oral expression, preparation of instructional material and use of some common audio-visual aids, and so on, while special training packages may contain skills, such as dramatising a story, acting a lyric, singing, taking care of very young children, e.g., handling, carassing, feeding, etc.   These skills are deemed to be essential for the pre-school and primary trainee.   Similarly, for the secondary trainee, skills like demonstrating, stimulating and conducting discussion , handling scientific instruments, experimenting, playing certain games, etc., should be considered useful.   Very serious attention needs to be paid to the development of these package programmes.   The training programme packages suggested under structures for different stages of teacher education in this paper include practice teaching as an integral part of the packages. The present practice of having separate courses in theory and practice in the methods of teaching special subjects is, therefore, to be discontinued.

4 2   Salient Characteristics of Structures

Before various structures of teacher education with respect to differen* stages are presented and discussed, it is necessary to clarify their salient characteristics.

    (a)   An attempt has been made to elaborate various stage-wise programmes keeping in view the potential of education to be

developed, discipline as well as task-oriented training.

(b) It should be noted that these recommendations and suggestions are only suggestive rather than prescriptive.

(c) While developing the alternative structures at a given stage of teacher education, full cognizance has been taken of existing structures which will continue for sometime to come. For the transitional period necessary modifications are incorporated so as to cater to the needs of the new curriculum.

(d) The suggested alternative structures are various projections of the shape teacher education should take in order to meet the demands of the new exigencies created by the introduction of the 10+2 curriculum

(e) It is necessary to note the changes made in some basic terms and expressions that have been in vogue in our system for quite some time.   (See Appendix-A)

4 3 Objectives and Structures of Teacher Education for the Pre-school Stage

It has been accepted in principle that education of the citizen should start from the infancy, even though pre-school education is not yet a State responsibility. In order that both education of the pre-school children and teacher education at this stage may grow and develop within the national framework, its objectives and structures are treated separately here.   However, looking at the present situation, the training of pre-school teachers may be accomplished by offering alternative or additional courses in the training programmes conducted in the primary teacher training institutions.   In any case, it is necessary to include in the primary training programme some of the methods and techniques deemed essential for the pre-primary school teachers.   For, in practice, a primary teacher, like his counterpart in the nursery school, has to handle very young children in the first two or three classes of the primary school   So, it would be desirable to have an integrated pre-primary and primary teacher education course to prepare teachers for teaching the children of the age-group3-8 years, i.e., for pre-primary classes and classes I and II of the primary stage.

The pre-school teacher-trainee should .

4.3.1   Acquire theoretical and practical knowledge about early childhood education.

4.3.2   Develop understandings of the major principles of child growth and development with special reference to the environment of the child.

4.3.3   Apply these understandings and knowledge to the education of young children under the Indian conditions—rural, urban and industrial.

4.3.4 Develop skills, understandings, interests and attitudes which would enable him to foster all-round growth and development of the children under his care.

4.3.5 Develop skills of taking care of the physical and emotional health of young children by creating conducive environment

4 3 6 Develop skills of communication, such as telling stories, explaining situations, etc.

4 3.7 Possess knowledge and develop skills of providing a variety of learning experiences through the organisation of musical, rhythmical and dramatic activities, play, work-experience, creative art and games.

4.3 8 Possess skills of developing simple visual aids from waste and indigenous materials.

4.3.9 Understand the home environment of the children and develop an amicable home school relationship for mutual benefit.

4.3.10 Understand the role of school and of the teacher in changing the society.

4.3.11 Structures and Courses with Weightages :

The duration of the pre-school teacher education course would be four semesters (72 credits) for teacher trainees who have completed their 10-year schooling. As is well known, such 2-year courses for primary teachers are in vogue in most of the states ; and therefore the adoption of same for the pre-school teacher training is no departure so far as the duration of training is concerned. This will continue for sometime during the transition pariod. However, this course blocks the mobility of the teacher trainee for higher education. Therefore, it may also be offered as an academic course at the +2 level of the higher secondary stage with a further two semesters (36-credit-hours) of education combining all three major areas recommended in this paper. The third and fourth alternatives are offered on the basis of rationale developed and on the cognizance of the national pattern suggested for the +2 level. It is to exploit fully the systems that might emerge simultaneously at the higher secondary stage. Thus four semester courses of education as a vocational and education as a discipline courses are suggested. It may be noted that the percentages of time to be spent on various aspects have been kept the same as mentioned in the N.C E R.T. document on Vocationalization. It is hoped that from this stage on it would be possible to develop two independent but mutually complementary sets of courses on education, i.e., education as a discipline and education as task-oriented training.

A suggested structure of pre-school teacher training programme is given in Table I.

TABLE-I

Structure of Pre-School Treacher Education Programme

Area	Course	With	Weightages	
1	2	3	4	5
	Four semester pro-fessional education after class X (10+2; 72 credit-hours)	Six semester course after class X (10+2 +1, 108 credit-hours)	Four semester vocational education courses after class X (10+2; 72 credit-hours)*	Four semester courses in education as a discipline (10+2; 72 credit-hours)
A. Pedagogical Theory 20%	1. Teacher and Education in the Emerging Indian Society.	Same as in Column (2)	A 25% Language General Studies (Social, econo-mic, scientific, etc.)	A. 25% Language General Studies (Social, Economic, scientific, etc.)
	2. Child Development	Same as in Column (2)	B. 25% Science, social science, and humanities courses desig-ned to under-stand the basis and scope of education as vocation.	B. 25% Science, social science, and huma-nities including literature and education Edu-cation and related subjects e.g Psychology, socio-logy and philosophy should have a weightage of at least 25%.
	3. Special courses according to the needs and facilities available			
B. Working with the Community 20%	4. Work situation related to 1, 6 & 8.	Same as in Column (2)		

1	2	3	4	5
C Methodology 60% and Practice Teaching, including Related Practical Work.	5. Core Training Programme Package (10%)	Same as in Column (2)	C. 50% Vocational and practical work (Pedagogy and Practice teaching)	(A variety of combinations of academic and education courses are possible in terms of major and minor)
	6. Special training Programme Package I : Child Care (10%)		D. 72% Credit-hour courses recommended for academic streams at the +2 level-	
	7. Special Training Programme Package II - Activity Method (10%)			
	8. Special Training Programme Package III - Art, Music and Work Experience (20%)			
	9. Related Practical Work (10%)	(Courses A B and C comprise of 36 credit-hours)		
	(Modified conventional course)			

*Only in institutions which have adequate facilities for practice teaching

4 4 Objectives and Structures of Teacher Education for the Primary Stage

This teacher training programme should differ from the pre school one, as the objectives of primary education differ from those of the pre-school education.   In view of the increase in the children's matuarity and the need for attaining the three main objectives of literacy, numeracy and technicracy, along with other socio-emotional objectives, special attention will have to be paid to the development of specialised knowledge and skills with regard to content and methodology.   However, certain elements of pre-school teacher education, such as psychology of early childhood and playway methods of teaching, need to be integrated with the primary teacher education programme.

The primary teacher-trainee should

4.4 1 Possess competence in the first and the second language, mathematics, and in the topics of natural and social sciences related to environmental studies I and II.

4 4.2 Develop skills in identifying, selecting and organizing learning experiences for teaching the above subjects in formal and non-formal situations

4 4.3 Possess sufficient theoretical and practical knowledge of health, physical and recreational activities, work-experience, art and music, and skills for conducting these activities.

4.4.4 Develop understandings of the psychological principles underlying the growth and development of the children of the age-group 6+0 to 14+4.

4.4.5 Acquire theoretical and practical knowledge about childhood education, including integrated teaching.

4.4.6 Develop understandings of major learning principles with help in promoting cognitive, psychomotor and attitudinal learnings.

4 4.7 Understand the role of the home, the peer group and the community in shaping the personality of the child, and help develop an amicable homeschool relationship for mutual benefit.

4.4 8 Conduct simple action research.

4 4.9 Understand the role of school and of the teacher in changing the society

4.4.10 Structures and Courses with Weightages It may be noted that the first four structures would be similar to those detailed in Table I for pre-school teacher education. However, internal details would be different. The duration of the alternative programmes are given below :—

  (i) Four-semester professional education courses after Class X (10 + 2 ; 72 credit—hours)

  (ii) Six-semester courses after Class X (10+2+1 ; 108 credit-hours)

   (iii) Four-semester vocational educational courses after Class X (10+2 ; 72 credit—hours)

   (iv) Four-semester course in education as a discipline (10+2 ; 72 credit hours)

   (v) Two-semester professional courses after graduation. (Graduation+1 , 36 credit-hours)

The structures mentioned above are feasible and their details have been presented in Table II A strong plea is made for introducing semester and credit-hour systems in order to attain flexibility and mobility.

4.4.11 As and when such organisational changes take place, it would be possible to evolve some more structures A few projections are mentioned below '

   (a) Twelve semester professional education courses after class X (10+2+3 , General education+72 credit-hours in academic stream+108 credit-hours in specialised areas+36 credit-hours in education)

   (b) Twelve semester course in education as a discipline after class X (10+2+3 ; General education+72 credit-hours in academic stream/education as a discipline/combination of academic stream and education + 108 credit-hours in specialised area inclusive of education+36 credit-hours in education as a discipline).

TABLE-II
Structures of Primary Teacher Programme

Courses with Weightages

Area	For semester professional education courses after standard X (10+2, 72 credit hourss)	Six semester courses after standard (10+2+1, 108 credit-hours)	Four semester vocational education courses after standard X (10+2, 72 credit-hours)	Four semester courses in education as a discipline (10+2, 72 credit-hours)	Two semester professional programme after graduation (Graduation in Science and humanities+1 ; 36 credit-hours)
1	2	3	4	5	6
A Pedagogical Theory	20% 1. Teacher Education in the Emerging Indina Society. 2 Child Psychology 3. Principles and Problems of Elementary-Education.	A Same as Column (2)	A. 25% Language, General studies (Social, economic scientific, etc	A 25% As in Column (4)	A 20% As in Column (2)
B. Working with the Community	20% 4. Work situations related to 1, 8, 9, 10 and 11	B. Same as Column (2)	B 25% Science, and humanities courses designed to understand the basis and scope of education as a Vocation	B 75% Science, Social sciences and humanities including literature and education. Education and related subjects e.g psychology, sociology and philosophy should have weightage of at least 25%.	B. 20% As in Column (2)

1	2	3	4	5	6
C Content-cum Methodology and Practice Teaching including Related Practical Work	60% 5 Core Training Programme Package (10%) 6 Special Training Programme Package I - Language (10%) 7 Package II: Mathematics (10 %) 8. Package III Environmental Studies I (5%) 9 Package IV Environmental Studies II (5%) 10 Package V Work Experience and Art (10%) 11 Package VI Health Physical Education & Recreational Activities (5%) 12. Related Practical Work (10%)	C. Same as Column (2) D 72 Credit-hour course recommended for academic stream at the +2 level.	C, 50% Vocational and practical work (Pedagogy and practice-teaching)	(A variety of combination of academic and educational courses are possible in terms of major and minor).	C. 60% 5. Core Training Programme package (10%) 6. Special Training Programme either items 6, 8, 10, 11, and 12 or items 7, 9, 10, 11 and 12 as given in column (2)

Conventional Type) Courses A, B and C comprise 36 credit-hours)

(*Only in institutions which have adequate facilities for practice teaching,
Note : Although items for different structures seem to be identical, the emphasis and consequently the quantum of knowledge will differ according to the entry level of the student trainees,

4.5 Objectives of Teacher Education for the Secondary Stage

The new Ten-year curriculum necessitates a modification in the objectives of the secondary teacher education programme.

The Secondary teacher—trainee should ·

4.5.1 Possess competence to teach subjects of his specialization on the basis of accepted principles of learning and teaching in the context of the new school curriculum

4·5.2 Develop skills, understandings, interests and   attitudes which would enable him to foster all round growth and development of the children under his care.

4.5.3 Possess sufficient theoretical and practical knowledge of health and physical education, games and recreational activities and work-experience.

4.5.4 Develop skills in identifying, selecting, innovating and organizing learning experiences for teaching the above-mentioned general and special subjects.

4.5 5 Develop understandings of psychological principles of growth and development, individual differences and similarities, and cognitive, psycho-motor and attitudinal learnings.

4.5.6 Develop skills in guiding and counselling the children in solving their personal as well as academic problems

4 5.7 Understand the role of the home, the peer group and the community in shaping the personality of the child, and help develop an amicable home-school relationship for mutual benefit.

4.5.8 Understand the role of the school in changing the society,

4.5.9 Undertake investigatory projects and action research.

4.5.10 Structures of Teacher Education for the Secondary Stage.

Two major structures for professional preparation of teachers for secondary school have been in practice in this country.

(1) One-year of professional education after graduation leading to the B. Ed. degree, and (2) Four-year integrated teacher education courses after higher secondary leading to the B. Ed. degree in seiences, English, Commerce, and Technology as tried out in the Regional Colleges of Education

The four year Teacher Education Programme should be an open experiment to be continued, as the new system will provide a lot of mobility, and entry and exit points at various stages. Considering the present conditions in the country, it is envisaged that the present one-year professional teacher education programme (in new   terminology two-semester course of 36 credit-hours) after graduation is likely to conti nue as the predominent structure. It is, however, necessary to considerably improve and enrich this course, so that the

teacher may effectively teach the new curriculum of the ten-year school.

4 6 Objectives and Structures of Teacher Education for the Higher Secondary and Collegiate Stages

One of the most important recommendations of the NCERT document on vocationalization, that has far reaching implications for the entire Indian education, is to bring the +2 stage of education within the purview of school education and to give it a vocational bias This requires that immediate attention be paid to the development of functional teacher education programmes at this stage.

TABLE III
Structures of Secondary Teacher Education Programme
(Two-semester Course of 36 credit-hours)

Area	Weightage	Suggested Courses
A. Pedagogical Theory	20%	1 Teacher and Education in the Emerging Indian Society
		2 Educational Psychology
		3 Special courses according to the needs and facilities available
B Working with the Community	20%	4 Work situations related to 1, 6, 7, 8 and 9
C. Content-cum-Methodology and Practice Teaching, including Related Practical Work	60%	5. Core Training Programme Package (10%)
		6. Special Training Programme Package · 1 Life Sciences/Physical Sciences|Social Sciences/Languages/ Mathematics (20%)
		7. Special Training Programme Package II Work Experience (10%)
		8. Special Training Programme Package III : Health, Physical Education, Games and Recreational Activities (10%)
		9. Related Practical Work (10%)

Along with this, attention needs to be given to develop some short-duration programmes for the training of college teachers. Whatever attempts have been made in this connection emphasize the need to introduce such programmes in the country. It is necessary that some national guidelines are formulated for a systematic and desirable development of

such courses   As many objectives remain common to the higher secondary and collegiate stages, only most important objectives are listed below

The future teacher for the +2 and the collegiate stage should

4.6.1   Develop competence to teach the subject of his specialization on the basis of accepted principles of learning and teaching and knowledge of the subject by striving to keep in touch with the latest developments in both the subject and methodology of teaching.

4 6.2   Develop an understanding of the aims and objectives of education in general, and of higher education in particular in the Indian background, to promote awareness of the role of education and of the teacher in building up a democratic, secular and socialist society.

4 6.3   Develop skills-cognitive and psychomotor-for reaching academic and/or vocational subjects by providing appropriate learning experiences.

4.6.4   Develop skills in making use of educational technology in teaching academic and/or vocational subjects

4.6.5   Understand the bio psycho-social needs of the adolescent and the problems arising out of their non-fulfilment , develop skills in guiding and counselling the adolescent in solving his personal and academic problems.

4.6 6   Undertake investigatory projects, action research and experimental projects both in education and specialised subject areas.

4 6.7   Understand the role of school and the teachers in changing the society

4 6 8   Structures of the Courses with Weightages

The structures of the courses for the +2 and the collegiate stage are given in Table IV

Since the structures of the different models of teacher education given in Table IV have to be created for the first time, their rationale and characteristics need an explanation.

MODEL I.   This is a modified version of the secondary training programme as suggested earlier   It is meant for postgraduate teachers for the academic stream. While according to our general, theoretical and practical considerations, it retains the areas A and B with a slight increasase in pedagogical inputs, *i.e.*, 30% instead of 20%, it makes some changes in the area C. Special training of only one subject is recommended, although an option is kept open for special training either in one vocation, preferably related to his specialization, or in teaching his subject of specialization also at the secondary level, in case his assistance is needed by the school.

TABLE-IV

Structures of the Teacher Education Programme for the Higher Secondary and the Collegiate Stages

SUGGESTED COURSES

Areas	Weightages	For the +2 stage Academic Stream (*)	For the +2 stage Vocational Stream (*)	For skilled artisans Vocational Stream (**)	For collegiate education (**)
1	2	3	4	5	6
A. Pedagogical Theory	30%	1. Teacher and Education in the Emerging Indian Society 2. Educational Psychology 3. Psychology of Adolescence 4. Special courses as per the needs and facilities available	As given in Column 3	As given in Clumn 3, except No. 4	1. Teacher and Education in the Emergng Society 2. Educational Psychology 3. Study of the Indian Youth in Psychology and Sociological Perspectives
B Working with the Community	20%	5. Work situations related to 1 and 8	5. As given in Column 3	5. No Need	5. No Need
C Content-cum-Methodology and Practice Teaching, including Related Practical Work	50 %	6. Core Training Programme Package (10%)	6. As given in Column 3	6. As given in Column 3	6. As given in Column 3

1	2	3	4	5	6
		7. Special Training Programme Package I : Special Subject (20%)	7. Special Training Programme Package ; Main vocation	7. As given in Column 3 for one vocation only	As given in Column 3
		8. Special Training Programme Package II (Inclusive of Content) - Any one Vocation, if Possible, related to his subject OR Special Secondary Training Programme Package I or II (10%)	8. Special Secondary Training Programme Package III	8 No Need	8 No Need
		9. Related Practical work (10%)	9. Related Partical work	9 No Need	9 No Need

*Two-semester courses of 36 credit-hours for the +2 stage of academic & vocational stream.
**One-semester course of 18 credit-hours for the skilled artisans & Collegiate stream.

MODEL II.   All the components remain as they are in structure I, except that the trainee is exposed to work-experience programmes, preferably related to his own field of specialization, again for serving the needs of secondary classes.

MODEL III.   This programme of a short duration, say, of one semester, is meant to utilize the community resources for running the massive vocationalization programme undertaken at the +2 level in the country. It may not be possible to get or train an adequate number of full-time teachers for this programme, as the number of vocations suited to the local situation may be too large. In such a case, it is proposed to utilize the services of skilled craftsmen, artisans and others on a part-time basis by providing them with some pedagogical theory and special training programme packages.

MODEL IV.   This programme of one semester duration is meant to provide some pedagogical theory and general methods of teaching to college teachers in order that they may use more effective techniques than the traditional type of lectures and practicals in teaching college students

There is a further need to think about some other alternative structures for preparing teachers for the +2 stage. While the suggested structures could take care of substantial vocations in the areas of science, commerce and agriculture, as post-graduate students might be available for training, it would be difficult to get post-graduate students in the fields of medicine, engineering and technology to come forward for any such pedagogical training. There can be two alternatives

(i) the requirement of post-graduate qualification for teaching technical and para-medical vocations may have to be waived

(ii) Part-time experts without any training may be employed

4.7 Objectives and Structures of Postgraduate Studies in Teacher Education

M.A. in Education is being offered at present in some universities as a discipline, and it may continue as such. The M Ed programme is a part and parcel of teacher education. While the teacher education programmes up to the secondary stage contain both theory and practice of education, the postgraduate courses consist of only theory papers. Even an M Ed programme in science education, as offered in some universities, is more or less a replica of a general M.Ed. programme. It may be pertinent to think of two types of programmes to maintain continuity and also to serve the basic purposes of teacher education at the postgraduate level. This is more relevant in the changed situation, for teacher training may be regarded a pre-requisite for a teacher at the +2 stage. Thus, there will be a need for two cadres of teacher-educators, one category of

them looking entirely after general and special training in the methods of teaching various school subjects, work-experience, vocations, health and physical education, games and recreational activities, and the other looking after the theory part. The former is altogether a new area which requires specialists or experienced technicians. In other words, there is a need to develop a task-oriented M Ed. programme which will provide scope for practical work in education Simultaneously, the tradition of theory-based courses, as reflected in the present M Ed programmes needs to be continued Another postgraduate course of two-semester duration after the Master's degree leading to M Phil. in Education is also suggested This course should be open to people having either the M.Ed. degree or the Master's degree in some other related discipline. This is a research level course which can be terminal or may lead to the Ph. D. programme in Education These are the considerations which may justify the structures of post-graduate programmes as suggested in Table V.

TABLE-V

Structures of the Postgraduate Studies in Education
SUGGESTED COURSES

(1)		M Ed (2)		M. Phil. (3)
A. Pedagogical Theory	1.	Foundations (20%) Courses	1.	Not needed for those having M Ed./M.A. (Edn.) But needed for those from other disciplines
	2.	Research (20%) Courses	2	Research Courses (50%)
B. Specialization	3	Theoretical Courses (60%)	3.	Theoretical Courses in one area of specialization (50%)
		or		
	4.	Task oriented courses (Any (60%) two areas of specialization)		

4 7.1 Education is essentially interdisciplinary in nature. In order to attract interested students from other related disciplines, it is suggested that they may be admitted directly to the theory-based M. Ed. and/or M. Phil programme. It is recommended that a holder of a Master's degree in any related subject may be considered eligible to register for Ph D. in Education. in universities which do not require the M. Phil. degree for registration for the Ph D. programme, provided the problem area has relevence to education Such candidates may be required to take a minimum of 18 credit hours courses in education and research methodology.

V

Methodology of Teacher Education

5.1 It is high time that the methodological innovations that the teacher-trainees are urged to follow in their teaching are practised in the teacher training intsitution itself. As it is rather difficult to spell out various methods, techniques and mode media to be adopted at each and every stage of a teacher training programme, some general guidelines may be given for organizing ; (A) Pedagogical Theory, (B) Working with the Community and (C) Content-cum-Methodology and Practice Teaching, including related Practical Work.

5.2 Institutional Planning

Every institution, in the beginning of the year, should convene a staff meeting and dispassionately evaluate the previous year's performance. The staff should take cognizance of both the factors that facilitated and obstructed the smooth working of the programme ; and then a modified institutional plan, with specific target dates and built-in evaluation checks should be developed for the semester. This plan should provide general guide-lines to the individual members of the staff for working out their yearly plan, with specific objectives, modes of operation and evaluation procedures.

5.3 Organization of Theory Courses

In the beginning of each semester every member of the staff should prepare an outline of his course stating the major objectives, the strategies of teaching and the goals expected to be attained by the trainees. In order to make instruction more meaningful and also to motivate the students, the synopsis of the theoretical portions to be covered may be given to them in advance, stating what his expectations are, how he intends to organize the course and what kind of evaluation procedure he will adopt. Latest relevant and necessary references may be provided in the synopsis itself. In order to make instruction effective, a variety of methods/techniques and educational technology may be used.

34

Self-learning

A fundamental change in teaching will have to be made. Spoon-feeding though half-baked, outdated notes have to be replaced by library studies, individualised assignments, Kellac-type self-paced materials, etc., thereby entrusting the responsibility of learning to the trainees themselves.

Problem Solving

It has been claimed that education is the training of mind; that is to say, the developing of mental powers   The problem-solving method provides an effective way to stimulate higher mental processes. In preparing material for self-learning, special care needs to be taken to present it in the form of problems, the solutions of which have to be found out through a scientific process

Objective-based Instruction

It is not sufficient to convert the content into problems. The teacher-educator must identify the objectives that can be attained through these problems   He should indicate the mental processes implicit in the problems and arrange them in an hierarchical order

Content Analysis and Methods

An attempt should be made to analyse the content of theory papers into facts, figures, concepts, principles, laws and problems requiring solutions   Once this is done, it will be quite easy to utilize even the traditional modes and methods meaningfully for teaching various topics. To quote a few examples, the information—loaded portions may be treated through lectures, programmed or tape-recorded. Many portions in philosophy, history, geography, political science, biology can be effectively dealt with, using any one of them. Conceptual problems can be taught in a variety of ways. Philosophical, social, economic and political problems can be discussed in the class, in groups, in seminars, in symposia or in debates   Such discussions can be organised, following the narration of an unusual socio-political event, or a film exposing, say, communal conflict. Role play can also be effectively utilized for highlighting problems concerning administration and human relations. The most crucial point that needs to be remembered is that there should exist a relaxed, pleasant classroom climate which permits freedom to the trainees to interact and participate without any anxiety of being reprimanded. This will encourage initiative, involvement and belongingness—conditions that are essential for creative thinking.

It needs to be emphasised that in the new semester and credit-hour system, the actual contact hours for an average student will be reduced from 36 periods to 18 hours per week only. It is assumed that every contact hour in the class will at least require two hours of extra work on the part of the student teacher ; and therefore the methods out-

lined above would help the teacher educator to pass over the responsibili-
ty of learning to the student teacher.

5.4   Working with the Community

5.4.1   *Organisation*

Broad guidelines for organizing this new programme have been
given in the rationale (4 1 2)   It will be helpful to indicate the locale
where the activities relating to "Working with the Community" should
be carried out.   These may be carried out on the campus of the teacher
training institution itself taking the institution as a community, based on
self help, cooperation and democratic values Then the cluster of schools in
the neighbourhood, particularly the practising schools, may be considered
as a community.   Further, the people living in the surrounding area,
socio-economically deprived communities in particular, may be character-
ised as a community.   In fact, working with all these groups is communi-
ty work.   The main objective is to provide the future teacher with actual
life experiences to realize things that are talked about and discussed in
the books.   This requires an efficient organization for implementation.
This programme may be divided into four phases :   (1) identification of
work situations in the community (A lot of data about trade, agriculture,
industry, etc., will be available from the extensive district surveys planned
by the NCERT by the time new teacher training programmes are laun-
ched), (2) preparation of the trainee for work-information about the
purpose, his role, his participation, the schedule of work, etc., (3) simula-
tion for developing skills of playing the role of leader, member and follow-
er ; simulating interaction in formal and informal socio-personal situations
etc., and (4) follow-up by free and frank discussions with the trainees
about their experiences, relating them to the national goals and pedagogi-
cal theories.   It will be necessary to work out an efficient supervisory
system to guide and evaluate the trainee's work.   Socio-metric techniques
in disguised forms may have to be used for obtaining the community's
reactions to the contributions made to the community's welfare by the
trainee.   The main criteria for this evaluation should be the quantity and
quality of social action and the changes brought about in the life of the
community by means of individual and collective efforts of the trainees.

5 4.2   *Mode of Operation*

(a)   The teacher training institution should adopt a certain local-
ity for working with the community.

(b)   It may not be possible for a teacher trainee to work in many
areas with the community.   It is, therefore, desirable that a
few areas of community work may be selected by each
trainee for the purpose.

(c)   The programme to be undertaken should be need—based.
For instance, in a particular area there is lack of drinking
water in the community. There the digging of wells in the

village with the help of the community, can be considered as an appropriate activity.

(d) A detailed planning of community work must be done so that all the activities are carried out systematically.

(e) The community work must be done on a continuing basis. For instance, if a centre for non-formal education is started in a community, arrangement should be made to see that if one teacher trainee runs the centre for a month, another teacher trainee takes it over immediately afterwards, so that there is no break in the programme throughout the year, as far as possible.

(f) One approach to the community work may be to undertake projects in the community to fulfil certain felt needs. These projects should be both group projects and individual projects because it is necessary to provide opportunities to each teacher trainee for working both collectively and individually in order to develop certain qualities of character

(g) To begin with, it would be better to acquaint the teacher trainee with the developmental agencies and their work. This could be done by inviting personnel of such agencies to discuss the related matters with the teacher trainees in the teacher training institution itself

(h) A whole-time coordinator may be appointed in each teacher training institution to take care of all the activities related to the community work The coordinator should be assisted by all other teacher educators in this work. The coordinating, teacher educator, be oriented in advance about the nature and operation of the community work, so that they may conduct the programme properly.

5.5 Organization of Content-cum-Methodology and Practice Teaching, including Related Practical Work

It has been envisaged that this aspect of teacher training program, me, sooner or later, will become fully task-oriented (performance-based). Action in this direction has already been initiated in some institutions, although most of the useful findings have yet to be widely propagated outside the research journals in which they are published. It will certainly be a useful exercise to consolidate and systematize the knowledge, already available in this regard This will help the training institutions to develop special training programme packages for the various subjects and stages This programme may be divided into the following comprehensive tasks :

(1) Intellectual skills related to content and methods.

(2) Psychomotor skills for teaching.

(3) Skills conducive to good human relations for maintaining social climate in the classroom.

5.5.1 *Intellectual Skills*

— Identifying and selecting the content appropriate for a particular class
— Analysing the content into portions related to factual, conceptual, applicational, and theoretical learnings
— Analysing further the classified contents into behavioural objectives related to the cognitive, psychomotor and effective domains.
— Translating them into instructional problems
— Identifying the implicit mental process in these problems.
— Stating concepts, behavioural objectives and mental processes
— Correlating these to pedagogical principles.
— Identifying, selecting, devising, originating and enriching learning experiences appropriate to achieve the stated objectives
— Framing instructional questions of differing complexity and difficulty.
— Making appropriate choices from among the various forms of questions according to the stated objectives
— Identifying, selecting, devising and creating unfamiliar but reliable and valid testing situations to measure higher mental processes, interests, attitudes and values
— Developing lesson plans and evaluation tools, combining all the above-mentioned components

5.5.2 *Psychomotor Skills*

(a) Non-verbal (Motor) Skills
— Positional/Postural/Locomotor Skills
— Writing on the black-board
— Demonstrating/conducting experiments
— Handling and presenting various audio-visual aids such as charts, projectors, over-head projectors, microscopes, etc.
(b) Verbal (Communication) Skills
— Listening. reading and writing skills.
— Narrating, explaining, acting, questioning, articulating, expressing, modulating, etc

5 5.3 *Skills Conducive to Human Relations*

— Securing pupil's involvement and participation in ongoing learning.
— Developing rapport with them by handling pupils' cognitive, psycho-motor and attitudinal responses through verbal and non-verbal feedback.
— Creating permissive yet goal-directed interactions in the classroom.

Dealing sympathetically yet firmly with problematic and embarrasing social situations arising in the classroom.

The skills listed above are just illustrations and by no means represent a comprehensive list of skills to be developed in a student trainee. A skill like 'writing on the black board', or 'demonstrating' may have to be broken down into a number of small skills for training purposes Such skills may be taken as starting points for further development and refindment. This must be considered as just one suggestive model Several alternative models may be developed and validated

5.5.4. *Organization of Practice Teaching, including Related Practical Work*

The most important part of teacher education programme is practice teaching. This should be well integrated with each special training programme package mentioned in the structnres for various teacher training programmes. In organizing the programme, care should be taken not to insist on the stereo-typed format of lesson planning which often kills creativity in teaching The trainees should be encouraged to practice new methods and approaches in teaching, "including correlated teaching and work centre teaching"

Practice teaching should be divided into three phases :

    (a)   Pre-practice teaching preparation.

    (b)   Actual practice teaching, and

    (c)   Post-practice teaching follow-up.

In order to revitalize this aspect the following tasks in sequence, may be carefully attended to :

    (a)   *Pre-prectice Teaching Preparation*

— Identification of content deficiencies in the topics related to the school syllabus on the basis of a diagnostic test.

— Remedying the shortcomings with the help of intensive self-instructional materials/bridge courses.

— Preparation of flexible mini and complete lesson plans to be taught during practice teaching.

— Training in various skills listed above in micro and simulated situations in a cohesive group under a tutor.

— Observation of lessons delivered by the teacher educator and good teachers to realise how salient skills are used.

— Providing necessary information and skills for doing related practical work.

    (b)   *Actual Practice Teaching*

— Since it has been now accepted that block-teaching practice is a better alternative to everyday one-lesson delivery practice, no further comments on the old practices are offered. How-

ever, because two more highly skill-oriented subjects, viz.,
(1) work-experience, and (2) health and physical education
games and recreational activities, have been included in the
new curriculum, the duration of practice teaching has to be
substantially increased. Although the number of lessons is not
considered important, not less than 20 lessons (5 for each
subject) should be given at appropriate intervals , and post-
lessons feedback with thorough discussion should be given
to the trainee for the improvement of his teaching skill It
is strongly recommended that the pre-practice teaching train
ing should be prolonged, and an intensive systematic and
scientific simulated training for each subject given to the
trainee The actual practice teaching should be conducted
in realistic situations This ought to help in reducing the
practice teaching time to a considerable extent.

(c) *Related Practical Work*

Related practical work refers to the work connected with
theoretical courses such as construction and administration
of tests, case studies of pupils, preparation of improvised
teaching aids etc. It is suggested that the process along
with the product of the work undertaken may be carefully
observed, and the necessary guidance be provided to the
trainee at every stage

VI

Evaluation

6.1 Interal Evaluation

One feels quite embarrassed to enumerate the salient features of good evaluation practices in a document like this. It has already been mentioned that teacher training institutions have not succeeded to become pioneer in undertaking the important excercise of examination reform They should strive to develop an efficient, continuo s and comprehensive system of internal evaluation The introduction of work with the community and a radical change suggested in organizing content-cum-methodology programmes require a new unconventional approach Since evaluation has to be continuous and comprehensive, reliable and valid evidences of progress should be collected at appropriate time-intervals, and these evidences should encompass all aspects of personality In the nature of things, an external system, however efficient and objective, obviously cannot deliver the goods There is hardly any other choice but that gradually the examination system has to become completely internal. To repeat the earlier observation, an effort should be made to develop a profile of the trainee, recording evidences sampled carefully from formal and informal observations of his academic and socio-emotional growth along with the skills of teaching.

6 2. Evaluation of Pedagogical Theory

The prevalent practice of assessing this aspect has been to allot certain weightages to the internel assessment and the external examination for each of the theory papers prescribed for the B. Ed programme. Universities require that a given number of formal internal tests be conducted for this purpose by the training institutions during the year. In addition, of course, the one-shot external examination is an indispensable requirement. Obviously, this system can hardly be conducive to the attainment of new goals of teacher education. The teacher-trainee has to be given opportunities where his modes of thinking, studying, operating and solving problems can be intimately watched, and the development of various abilities required for the same carefully recorded.

41

It is recommended that the weightage given to the formal tests or examinations may be reduced, and term papers, library studies, field investigations/surveys, investigatory projects, and viva voce tests may be introduced, assigning appropriate weightages to all such activities. The criteria for evaluation should be goal-orientedness, idependence, originality, perseverance, enthusiasm. and creativeness, and not merely the quality of the final product   This will, therefore, require a close contact between the teacher-educator and the student-teacher. This, in turn, will provide an excellent opportunity for clinical observation of the trainee's growth.

6.3.   Working with the Community

The main purpose of introducing this area is to bring the teacher trainee close to the community he is supposed to serve, in order that he may understand its problems and appreciate its contribution to the national life.   Thus, the goals are attitudinal (socio emotional).   Here, again, it is recommended that the process of change taking place in the trainee should be considered more important than the final outcome This requires that the teacher-educator should be associated with the trainee throughout the period of work   It will be quite useful, if the faculty of a training institution develops some tools, e g., rating scale, observational schedule, modified socio metric tests, etc., to assess the quality of the trainee's involvement in these activities.

Since the nature of the work will vary from one region to another, it is neither possible nor   desirable to list down the traits desired to be developed.   All the same, the traits such as adaptability, social sensitivity, tolerance, cooperativeness, leadership, sympathy, dedication, enthusiasm, participation, involvement, etc , will have to be kept in view. Reactions of the members of the community should be collected to check the validity of the opinion formed by the supervisor (s).

6 4.   Evaluation of Practice Teaching

As already mentioned, the evaluation of practice teaching should be fully internal.   Several attempts have been made to develop proforma for evaluating teaching skills   Some are too complex to be meaningfully utilized, while others aie too simple, sketchy and unscientific to help in deriving a valid index of the teaching skill of the student-teacher However, this type of exercise has helped in indentifying important points and criteria which should help us in sharpening our tools of measurement. To reiterate, any evaluation proforma should serve two purposes. (1) guidance, and (2) assessment. Experience has shown that the daily observation of lessons does not help much in identifying the change in skills, and perhaps one-third or one-fourth of the total observations, appropriately made at the initial, middle and last stages of the practice teaching programme, might yield more reliable information of the growth

of the student-teacher. This growth should be recorded continuously from the pre-practice teaching preparation on to its close.

Whatever points and criteria are included in the evaluation proforma, care must be taken to collect evidence from the on-going lesson to justify the grade given to the student. The method of evaluation in terms of the objectives of teaching should be known to the student-teacher. The actual grade given to the student-teacher should also be explained to him by the teacher-educator with reference to the objectives of teaching. It is also desirable to train the student-teacher in observing and evaluating the teaching practice of his peers. The teacher training institutions should take advantage of inexpensive technological aids available in India. A lesson recorded on tape can be played again and again, and this provides an opportunity for detailed discussions on each and every point with the trainee. It is hoped that video-tapes will also be available to us for such use within a decade or so

6.5. Related Practical Work

Since the alternatives of term papers, investigatory projects, etc , suggested for the theory papers differ little from the items included under this area, the recommendations made for the former apply to this area also.

6.6. Tutorial System

Since a suggestion has been made that the approach to instruction, training and evaluation should become more intimate and clinical, some of the problems concerning human relations, may be solved by devising an efficient tutorial system. Let one teacher be responsible for preparing a batch of future teachers, just as he is responsible for assigning grades to students in a theory paper. Once the faculty agrees on a rationale to be followed, it is believed that there will be little scope for variation, unless it is intentional.

6.7. Grading

The training institutions should also switch over to the seven-point U.G.C. scale for awarding, i.e., M (for merit) ; A, B, C, D, and E ; and F (for failure) It is strongly recommended that each institution, before developing its evaluation system with specific criteria, examines thoroughly the analysis of frequency distribution done by the research cell of the U.G.C. of marks secured by the students in different subjects in universities. Particularly, the data with respect of social sciences may be critically examined. On the basis of such scrutiny a distribution of expected frequencies under the seven grades may be decided for its own reference. It is believed that this kind of exercise will go a long way, in order to maintaining the uniformity of standards among teacher training institutions in the country

VII

Continuing Education of Teachers and Teacher Educators

7 1.   Prevalent System of Inservice Education

The need for life-long education has been very convincingly justified in the report of the International Commission on Education (UNESCO) entited *Learning To Be*   It is really surprising that *"for too long a period in human history,* education has remained cloistered and segragated from life and work.   When one goes to school one does not work.   One begins to work *after* one finishes school and *thereafter* rarely goes to school or has an opportunity for further education"   (*The Curriculum for the Ten-Year School,* NCERT).   This dichotomy between work and education in teacher education has yet to be broken   The NCERT has been trying now for more than a decade, with the help of a network of extension services centres (Established under the then DEPSE) to provide education to inservice teachers.   Several summer institutes in science subjects for teachers and in pedagogical subjects for teacher-educators have also been conducted in this connection   But it is generally felt that they have not made the expected impact.   This is not a place to discuss the reasons for the failure of the attempts to motivate and convince an average Indian teacher of the need to upgrade his knowledge of the content and methods of teaching the subjects of his specialization.   But somehow this problem of inservice education of teachers has to be solved, particularly at this juncture when the country is facing the task of orienting a large number of primary and secondary teachers to meet the needs of the new curriculum.

7.2   Continuity between Preservice and Inservice Programmes

It is believed that if a link between these two programmes is established, there will be more lively interest and motivation on the part of the teacher to advance his knowledge.   The following points need attention :

(a) The goals and rewards of preservice teacher education have

44

to be reflected in the in-service education programme, ob-taining an additional qualification which is really useful in his day-to-day work is not enough. It should also be reco-gnized by the university, the State Government or the employing agency.

(b) In view of the above, such programmes should be offered as courses with certain credits to be earned The training institutions should work out such additional courses in the beginning of the year and get them approved by the authori-ties concerned. Autonomous teachers' colleges, if and when they come into being, may do likewise from the very initial stage

(c) These courses must be run during vacations, in the mornings and evenings, or at the week-ends, particularly in the institu-tions which are located within the reach of a large number of teachers.

(d) Such courses may also be organized at the recognized centres strategically located in a region or at the SIEs, SCERTs, etc., with the help of experts

(e) It should, however, be ensured that the courses are really "Advanced Courses". One of the reasons of the failure of the inservice education programme has been the lack of challeng-ing content and procedures of conducting the programme. The courses have, therefore, to be carefully designed incor-porating the latest information, concepts, processes and already tried-out methods/modes/procedures. The main criterion should be how much extrinsic and intrinsic motiva-tion is created in the teacher by a course.

(f) The teacher should take up these courses on a voluntary basis.

7.3. Need for Upgrading Teacher Educators

All along it has been assumed that the teacher training institutions at all stages are capable of undertaking the massive programme of training teachers in order to meet the demands made by the introduction of new 10+2 curriculum in our schools

A question can legitimately be raised as to whether an inservice teacher is competent enough to do justice to the modified curriculum of the school. Since the answer is in the negative, this whole exercise of developing new teacher education courses has been undertaken. Now one has to answer another related question as to whether our teacher training institutions are in a position to undertake such a massive prog-ramme of preparing teachers, as has been detailed in various stage-wise structures. Knowing the state of teacher training institutions in the country one could hardly be confident about this. Under the present

circumstances, it is quite obvious that an equally massive programme of upgrading the teacher educators will have to be undertaken immediately. In fact, it will have to be done on a priority basis, so that before the new curriculum is introduced in different states in the country, the teacher training institutions are ready and well-equipped to shoulder this responsibility.

7.3.1 *Pre-School Teacher Education*

We have little experience and no adequate personnel to take care of teacher training in this area. In fact it often demands a new cadre of teacher educators who can be depended upon to undertake this task. It is suggested that a comprehensive programme for orienting these teacher educators may be immediately developed with the assistance of experts who have done some pioneering work in this area in different states through their pre-basic, kindergarten, nursery and montessori institutions such as Balwadis and rural education institutions at Sanosra, Vedchhi Gandhi gram. This comprehensive programme should be indigenous in character, integrating the best practices evolved in the above mentioned institutions. The NCERT in collaboration with these private and voluntary organisations, the Indian Association of Pre-school education etc. should take the initiative to formulate this programme. The programme should be so formulated that it would lay down a sound foundation on which the whole structure of pre-school education as well as teacher education could grow and develop. While pre-service structures may be thought of later, the need of the hour is to orient and upgrade those who are already engaged in such training, with the help of one of the suitable methods and modes of continuing education suggested below.

7.3.2 *Primary Teacher Education*

The need for revitalising primary teacher education is as pronounced as it is for the pre-school stage. While at present, in many states, there is a surplus of primary trained teachers, one can hardly claim that the quality of teaching in primary schools is satisfactory. In fact, the quality of *pre-school* education might be better, as whatever training is given for this stage is imparted by those who have been truely interested in the cause of pre-school education. While primary teacher training institutions have been staffed by those who have been prepared really for secondary schools, they neither have the mission nor the competence to do the job efficiently This calls for an over-all improvement of primary teacher education. It may be noted that an inservice correspondence education of six months duration for primary teacher educators followed by 15 days contact programme has been recently developed and is about to be launched. It is however, necessary to developed programmes of longer durations of contact in order to cultivate necessary skills for handiling a variety of tasks more scientifically and systematically than they have been done so far.

7.3.3 *Secondary Teacher Education*

It is felt that the changes envisaged to be brought about by the new curriculum have far-reaching implications for secondary education. The syllabi include substantial upgrading of content in social sciences and demand teaching science and mathematics to all children. Work experience, physical education and recreational activities also form an essential part of the curriculum. These areas include not only new content but also demand development of new methods of teaching. The ten-year schooling is the terminal stage of education for most of the youngsters in India. It is, therefore, essential that during this period students must be equipped to function as responsible citizens. This demands, in the first place, that the teacher educator himself should be equipped well with enriched content, knowledge of integrated methodology, skills to conduct work experience activities, and physical education and recreational activities. There is an immediate need to develop short duration correspondence-cum-contact courses, so that the teacher educator may be able to undertake the job of training the new type of teacher. Moreover, it is necessary that the teacher educator changes his methods and modes of teaching theory paper, takes up the responsibility of supervising and guiding students in the area of "Working with the Community" becomes proficient in dealing with different special training programme packages and evaluating the progress of the student teachers in all these areas, using a number of clinical and psychometric techniques.

7.4 Centres of Continuing Education

The present net work of extension services centres located in the primary and secondary training colleges needs to be strengthened, and new centres of continuing education for teachers and teacher educators should also be developed. Depending upon expertise and facilities available in the nearby universities, autonomous institutions, and training colleges, a set of new programmes, duly approved by the university bodies, State Departments of Education and or State Boards of Teacher Education may be organized through out the year.

7.5 Teacher and Teacher Educators Centres

Mention has been made about the motivation of the inservic teacher. In order to make the teaching community intrinsically motivated, the teachers' and teacher educators' centres should be established, after examining the viability of a place. It could be a district centre or a regional centre. In the selection of a place, the factors like the availability of educational facilities, local resources, transportation facilities, etc., should be carefully examined. Voluntary, public as well as private agencies may cooperatively run these centres. The teachers working at all levels of teacher education should be associated with these centres.

They may, in the course of time, build up physical and human resources so that professional consciousness and pride develops in the teaching community.

7 5.1   School Complexes

A few years ago an innovation, namely, the school complex came into being to improve competence and foster professional growth of in-service teachers. Such a complex included a number of secondary and primary schools located in a given area. Generally teachers of these schools met once a week or fortnight to discuss various academic problems faced by them in their classroom teaching and find their solutions. They also organised various education activities, e g., seminars, symposia, lectures by eminent educationists, demonstration lessons on improved techniques of teaching, for their professional growth Such a voluntary organization can be fully utilised for furthering continuing education of teachers.

7 6   Methods and Modes of Continuing Education

There are many ways of organizing continuing education. Since the idea of the credit course system has been accepted, the in-built flexibility provides ample scope for running these courses efficiently.

Correspondence-cum Contact Courses

These programmes have been until now organized as contact programmes. Looking realistically to the exigencies of our situation, it is suggested that this mode be modified. Time and expenditure are relentless determiners of what can be done It will be easier and less expensive to run these courses as *correspondence-cum-contact-programmes.* As the nature of work in teacher education involves skills as well as theoretical knowledge, this integrated system is likely to be more useful.

All thoeory, whether it pertains to education, humanities or sciences, may be imparted through an efficient system of correspondence, inclusive of quick feed-back for positive reinforcement. The correspondence can be done through programmed or self-paced individualized instructional materials in the form of lessons or tapes or video-tapes, or through radio or television, wherever possible. Of course, the cost-benefit of each mode has to be worked out very carefully before a choice is made All the same, it is strongly recommended that the available educational technology should be fully exploited. It is in this context that one at once sees the value of establishing teachers' centres equipped with learning facilities such as good libraries, laboratories, teaching machines, programmed materials, types, video-tapes, CCTV sets computerised materials, film-strips, films, etc., which could be of immense value to the teacher We already have some experience in establishing school complexes in certain regions of the country. Similar efforts may be made in setting up teachers' centres.

7.6.1   Some patterns of correspondence-cum-contact courses are tentatively drawn up here for guidance :

(a)   *Full correspondence course* . It is believed that courses in education as discipline could be offered through correspondence without any contact This can be under-taken as a course extending from the +2 school stage to the post-graduate stage. These students may be required to take examinations along with the regular students. No discrimination whatsoever should be made between two groups, so far as the recognition of their achievement is concerned.

(b)   *Professional education courses* may be offered as correspondence-cum-contact-courses. Present Summer School cum-correspondence course (SSCC) programmes run by Regional Colleges of Education and some universities may continue. Four summer semesters of one month duration and correspondence sandwitched in between, as the organisational pattern may continue. However, since the need for contact has been given less emphasis, 36 credit-hour education courses and the student may be allowed to acquire these credits through contact classes organised during (i) morning and evening, (ii) week-ends, and (iii) summer, autumn and winter breaks.

(c)   This can be decentralised and expert teacher educators and senior teachers may be allowed to supervise those who are desireous of continuing their education further. Since internal evaluation has been recommended, it should not be difficult to award grades for credit-hour courses to students on their recommendations.

(d)   It is also possible to provide opportunities for furthering education through radio and televised broadcasts to the teachers and teacher educators. These centres could be equipped with the necessary facilities which can help promote distance education.

Orientation for Nonformal Education

8.1 Need for Nonformal Education

Until now the focus of all the discussions has been on how teacher education should be changed to cater to the needs of the new curriculum in the existing formal school system But it is common knowledge that this system, however modified and expanded, cannot reach out to every young learner in the country and ensure equitable access to education

"For this reason a large programme of Non formal Education is being launched in the country If Non formal approach is adopted education will reach all the individuals of all age groups, who have been left out by formal education It will differ from the formal system in many ways. In the first instance, there will not be a rigid curriculum, stratified according to classes or levels the curriculum will be completely flexible and community as well as individual need oriented It will take into account the previous learning of the individuals, their needs and aspirations and will develop a suitable functional curriculum, which will necessarily have some socially useful productive work at its Centre. It will thus provide a strong motivation for the learner, which will find that the education acquired through non-formal methods is useful to him and helps him in his economic effort. Non-formal Education will not have a rigid time schedule , but the instructional time will be chosen to suit the convenience of individual learners- The content of the theoretical knowledge will not be the same as in formal education system, although the doors will be left open in the formal education system for an individual who had non-formal education to enter formal system, if he so desires. Non-formal Education is not only meant for children. who do not go to formal school or who dropout at early age, but is to be viewed as an alternative strategy for education for all.

Thus a person who is employed in a job after some formal education may also take the help of Non-formal Education for his own improvement. Thus Non-formal Education is not only meant for children below 15, but also meant for adults of all age groups.

An attempt is made here to suggest different ways and means to

prepare teachers to reach the out-of-school population of children and youth, *i e*, (1) pre-school-age children, (2) primary-school-age children who have never had the opportudity of attending school, (3) early primary-school leavers, (4) primary-school passed children who do not proceed to the next level of education and early secondary-school leavels, and (5) adolescent and youth of secondary-school-age who have never had the opportunity of attending any school

Teacher preparation for non-formal programmes for adults has not been discussed here as there is a separate Department of Government of India which is looking after the programmes of Non-formal Education for adults including teacher preparation for the same

8 2 Before the alternatives to formal teacher education are discussed some suggestions may be made to modify the existing school system which, in turn, can facilitate the entry of the out-of school-learner to the in-school system The built in blocks entries of deprived learners into the formal school system have been forcefully pointed out by the recent Unesco report entitled, "Alternative Approaches to School Education at Primary Level", as given below

8.2 1 (i) The work of the school is not only biased socially, but is determind by the requirements of the higher levels of the schooling system rather than by the learner's needs. This requires that the entry is made more flexible, that is, it becomes a multiple entry system, and a learner prepared by a non-formal agency is provided all opportunities and freedom to enter where he is fit for This also requires the rigid rules and regulations of the formal school system made so flexible that they do not work against the interest of the disadvantaged children

(ii) The prevailing school parctices concentrate on bookish knowledge, and consequently, there is no place in the school programme for the learning experiences that a child brings to school such as, tending the family cattle, participating in family or neighbourhood activities, acquiring skills relating to family vocations, etc This requires the school programme to become flexible in such a way that there is a continuity between the learning experiences acquired in home and community and those provided in the school, hence the need for curricula based on learners' needs in a particular social milieu.

(iii) There is a great divide between the life of the learners outside the school and what they encounter in the classroom. There is a real need to integrate the school with the environment. This can be done only if it is recognised that learning

can take place not only within the four walls of the classroom but anywhere in the environment, provided that students are exposed to appropriate learning experiences. More emphasis should be placed on learing experiences that are available in the environment, rather than attempting to bring them in an artificial form within the four walls of the classroom.

(iv) The high rate of educational wastage in terms of 'repetition', 'absenteeism' and 'dropouts' as well as the acute problem of educated unemployment indicate that the internal efficiency of the existing formal school system is all too poor. This demands that the system is so changed that it becomes more meaningful to every learner, providing a variety of more needbased programmes for their growth and development.

8.3 Approaches to Non formal Education

First of all, it is imperative that in addition to the school, a variety of agencies, such as, the family, the employer, peer groups, the community, etc. may provide for learning experiences In this connection the co-operation of different agencies already working in the field of rural development like Integrated Child Development Services, Applied Nutrition Programme, Tribal and Harijan Welfare, Health and Agriculture, Cottage and Rural Industries etc. may be sought and their activities guaranteed in the scheme of non-formal education. Secondly, it has to be accepted that teaching-learning must take into account the social, cultural, and economic milieu of the learners As a consequence, different types of individuals of varying education standards and age-levels will have to be oriented to undertake this work. Although in the following paragraphs, a curriculum has been indicated it should not be taken as a rigid, framework but it should be developed in terms of the personal and social needs of the target population. The orientation programme should be conduceted by a recognised authority/institution.

8 3.1 *Target population : Pre-school-age children*

This is the most neglected group of children. Whatever facilities are available at present, are, by and large, utilised by privileged classes only. In order to provide appropriate learning experiences to the mass of children at this stage, there is no other way but to mobilise and utilise the services of different agencies, both official and non-official.

(a) Curriculum

The curriculum for this stage should be completely skill based. It should include childcare, simple acting, singing, art, recreational games and work activities.

(b) **Who should be oriented ?**

    (i)   Out-of-school girls who have elementary education upto grade VII/VIII.

    (ii) All those housewives who have had education upto VII/VIII, and who are willing to undertake such social work

    (iii) Regular middle and high school girl students who may be trained to take up this work during the vacation period as part of their curricular programme.

    (iv) "Regular teachers, working in pre-primary or primary schools may be induced to take up non-formal education work."

8.3.2 *Target population   Primary-school-age children who never had the opportunity of attending school*

(a) *Curricum*

Curriculum for this stage should consist of basic language and arithmetic skills, health, hygiene and recreational activities. Training in the use of variety of educational aids should also be provided

(b) *Who should be oriented ?*

    (i)   All those boys and girls who have had their middle school education, particularly those who are unemployed.

    (ii) All those housewives who have had their middle school education and who are willing to undertake such social work

    (iii) Regular higher secondary and college students should be trained to undertake this work as part and parcel of their curricular programme of 'Working with the Community', during vacations and holidays.

    (iv) All the teacher trainees in the pre-school and primary school teacher training institutions could be utilised to undertake this work as a part of their training programme of 'Working with the Community'.

    (v) Regular teachers may also be persuaded to take up this work. However, their orientation programme should not exceed 15 days. The duration of the programme should not exceed 3 months for the new trainees.

8.3.3 *Target population :   Early-primary-school*

(a) *Curriculum*

Since the main objective of providing nonformal education to those, who for one reason or another leave the school, is to encourage them to continue their general education at least

upto standard VIII. The curriculum for this group should consist of environmental studies, languages, mathematics, health, physical education and recreational activities. Special training in the use of educational technology has to be provided.

(b) *Who should be oriented ?*

(i) All those boys and girls who have had their secondary school education particularly those who are unemployed.

(ii) All those housewives who have had their secondary education and who are willing to undertake such social work

(iii) Regular higher secondary and college students should be trained to undertake this work as part of their curricular programme of 'Working with the Community' during vocations and holidays

(iv) All the teacher trainees of primary teacher training institutions could be utilised to undertake this work as a part of their training programme of 'Working with the Community'

(v) Regular teachers may also be persuaded to take up this work. However, their orientation programme should not exceed 15 days.

The duration of this training programme should exceed three months for new trainees.

8.3.4 *Target population : Primary-school passed children who do not proceed to the next level of education and early secondary-school levels*

(a) *Curriculum*

The curriculum for this group has to be upgraded with content-enrichment in subject areas, productive work-experience or crafts, and games and recreational activities. Some training in different methods of teaching and use of educational technology have to be provided

(b) *Who should be oriented ?*

(i) All those who have completed their general education upto standard X, particularly those who are unemployed

(ii) All those housewives who have had higher secondary and collegiate education and are willing to undertake such social work

(iii) (iv) and (v) and other related points as mentioned in 8.3.3.

8 3 5. *Target population : Adolescents and youth of secondary-school-age who have never had the opportunity of attending school.*

This is perhaps the most difficult group who needs to be provided

education. It would rather be difficult, if not impossible, to bring this group in the main stream of formal education. As a matter of fact, the objective of providing education to this group will have to be modified. Since they would be almost approaching adult age, their training should be vocation-oriented rather than subject-oriented.

(a) *Curriculum*

The curriculum for this group of trainees should consist of training in teaching as a vocation

(b) *Who should be oriented ?*

(i) All those groups of boys and girls and housewives including teacher trainees at all levels, who have had their primary, secondary and collegiate education could be utilised for functional, literacy, numeracy and technicracy.

(ii) All those who possess certificates, diplomas and degrees in vocational and technical education including paramedical education, could be trained to undertake this work.

(iii) Regular students undergoing technical and professional education could be trained to under-take this work as part of their academic programme of "National Social Service" or "Working with the Community" during vacations and holidays

(iv) Artisans and professionals in different walks of life, who are willing, could be trained, if necessary, to undertake this work

(v) Regular teachers may also be persuaded to take up this work. However, their orientation programme should not exceed 15 days

The duration of this programme should not exceed a period of one or two month depending upon the nature of the group to be trained.

8.4. The training of all these groups should be free and the remuneration should be invariably paid according to the competance and qualifications excepting the students who are undergoing a programme of teacher training. Orientation received by these persons for nonformal education should be given due credit for entry into formal teacher education programme

8.5   Conclusion

The suggestions made here are based on the principle that there should be no discrimination against the disadvantaged group in the matter of education It has all along been assumed that out-of-school children as and when ready through these non-formal education programmes for

entry/re-entry into the formal school system, will not only be acceptable but also be rewarded for continuing their education. Similarly, those who wish to engage themselves in teaching will also have the opportunities to further their education. In other words, these programmes should be so designed that they work as 'bridges' and 'ladders' for the out-of-school children and youth to enter the formal system of education. It is belived that the aim of providing education should be the same for all and, thus, these non-formal education programmes should also aim at providing quality education at all stages

IX

Administrative Structures

9.1.   The Need for a Change

It is feared that none of the reforms suggested here would be accomplished, unless and until the present administrative structure is changed suitably.   Fortunately, essential infrastructures for the changes to be effected exist in our system   We have a large number of universities located at strategic places in almost all the regions, and a very large number of primary and secondary teacher training institutions, the former being controlled directly by the State Departments of Education and the latter affiliated to and being controlled by the universities. We also have several institutes established by the Central and State Governments which provide inservice education in certain school subjects. Then, there is a small number of institutions taking care of the training of teachers for exceptional children   All that is required is to effect coordination among these agencies in order to maintain standards, and to improve the quality of teacher education.

9.2   Academic Structure and Control

It is essential that the university should take steps to bring the entire teacher education in its fold by developing and introducing, in a phased manner, core and special pedagogical and training courses catering to the needs of all stages of teacher education. This will, in the true sense, raise the image of teacher education in the eyes of one and all and incidently help develop both the types i e. education as a discipline and task-oriented training that have been envisaged and explained in details in this paper   In the wake of many reforms undertaken by the U.G.C., this should not be too difficult to accomplish. As the situation stands, the academic control of teacher training programmes offered after the first degree will remain under the university. However, for other certificates and diplomas in teacher education, agencies like the State Departments/ Boards of Teacher Education/N C.T.E. etc., may keep the academic control in their hands   But the situation is expected to change in future, as a new organisational set-up has been thought of. It has been recom-

mended that in order to provide flexibility horizontal and vertical mobility to students, rigid year-wise courses may have to be converted into credit-hour semester courses   These courses may be instituted in a comprehensive college of education, in a cluster-complex of institutions or in a university.   As and when this is accomplised, perhaps the question of academic control will not be divided between different agencies, for then courses at all levels would form a continuous and comprehensive gamut of teacher education.   Consequently, complete academic control will be fully vested in the institutions, which in course of time will attain autonomous status   The following steps may not only facilitate but also help to accelerate the development of the broad and comprehensive programme outlined earlier

9 2.1   *The Semester System*

A semester of 120 working days (including examination days) is recommended, as it has already been accepted by the U G.C. and is being introduced in some universities   However, the introduction of summer semester is still awaited.   The summer semester of 30 working days needs to be   introduced particularly in teacher education programmes, for unlike other disciplines, this provision is urgently needed for the pre-service and inservice education of teachers and teacher educators   It is believed that these institutions will be humming with activities if the courses are offered, particularly, the contact courses during the period when the teachers are free from their school responsibilities.   A tentative pattern of semesters is suggested for reference which may be modified according to the local and regional needs and conveniences (See Appendix B).

9.2.2.   *Credit-System*

A normal load of an average student is considered to be 18 credit-hours per semester.   However, some bright students may be permitted to carry a maximum load of 24 credit-hours per semester   Likewise an average student may be permitted to carry 3 to 4 credit-hours, whereas a bright student may be permitted to carry 6 to 12 credit-hours during the summer semester

9.2.3   *Core Courses*

Core courses are those that are considered essential requirements by various Indian Universities/Boards for a Degree/Diploma/Certificate. A variety of such courses may be developed and introduced at various stages in conformity with the objectives of a given teacher training programme.

9 2 4   *Special Courses*

Special courses are organised with a view to satisfying the special needs and interests of individual students.   They also serve to enrich the

students knowledge of core courses and to provide a background for subsequent specialisation.

9.2.5. *Levels of Courses*

Attention needs to be drawn to the fact that the organization of courses in terms of credit hours permits students to make choices in accordance with their interests from among the various courses offered under sciences, humanities, and education. It is suggested that these courses might be labelled as levels of courses indicating different stages of teacher education. For example, the courses offered for pre-school and primary stages might be labelled as Level I courses, those for the secondary stage as Level II, for higher secondary and collegiate Level III and the post-graduate courses as Level IV courses. Further, these courses may be divided into *Core* Courses and *Special* courses under each level. They will have to be worked out both for Education as a discipline and task-oriented training of one semester duration and/or different credit-hours. As was suggested before, they may be grouped as under

Level	*Course*
Level I Core/Special	Pre-School and Primary stage
Level II Core/Special	Secondary stage
Level III Core/Special	Higher Secondary and Collegiate stage
Level IV Core/Special	Post-graduate stage

9.2 6 *Requirement of Credit-hours for Certificate/Diploma/Degree Courses*

It is felt that the requirement should be spelt out in terms of a number of credit-hours for a certificate/diploma/degree instead of calling it a semester or a one-year course. It will be necessary to spell out in greater detail the number of credit-hours with respect to the courses in disciplines (content), education, vocation etc, needed to be combined for the award of a certificate/diploma/degree. Parity between the quantum of work required for each subject to earn a degree in the university and that required for semester courses will have to be scrupulously maintained. An example of this is given in Appendix-C

9.2.7 As has been remarked . one need not think of minimum requirement for a semester course in terms of days, but it should be thought of in terms of hours needed for the course. This could be easily worked out in mathematical terms. If this is accepted, then it should be possible to run a variety of courses at various levels, not only in a university but also in the training institutions run and controlled by the State and Central Governments, as well as in the teachers' and teacher educators'

centres recommended in the previous chapter. These courses can be organized as morning-evening courses, week-end courses or as vacation courses. Needless to state that some agencies will have to coordinate their work for supervision and evaluation

If it is found rather difficult to introduce this system in universities, there are two other alternatives. There exists a potential infrastructure in the Regional Colleges of Education for implementing this idea. They are in a way miniature universities, having departments specializing in various disciplines, side by side with courses in different fields of education. They have all the physical facilities with the qualified staff of all cadres and have an administrative structure suitable for running such courses. Moreover, they have demonstration schools attached to them which impart primary, secondary as well as higher secondary education. They can provide ample facilities for work-experience and vocational courses. The other alternative will be to offer these credit courses in a cluster of different colleges i e , content courses in science and humanities in arts and science colleges, and education courses in primary and secondary training institutions and universities, including those centres where postgraduate programmes are provided. This would again require a coordinating agency for maintaining students' progress records on the basis of which a certificate/diploma/degree could ultimately be awarded

9.3   Administrative Issues and Structure

Sweeping changes have been envisaged in all aspects of teacher education. These can not be achieved unless and until necessary changes are brought about in the present administrative structure.

The following recommendations are made for consideration :

9.3.1   *Finance*

It is essential that adequate funds are made available and liberal assistance is extended by the Centre to the States for implementing the proposed programmes of teacher education. While sufficient funds are to be provided to implement programmes for all stages, preference should be given to aid primary teacher education programmes. Priority may be given to establish pilot institutions of pre-school teacher education and, if possible, they may be brought within the fold of the government. For the time being the government might aid the existing pre-school teacher training institutions, wherever they exist.

9.3.2   *Man-power planning*

At present in certain states we have a surplus of teachers at the primary level and to some extent also at the secondary stage. This calls for controlling the growth of sub-standard teacher training institutions at all levels. It is recommended that the question of establishing any teacher

training institution should be decided on the basis of demand and supply. Perhaps it would be desirable to establish a cell under the National Council for Teacher Education (NCTE) to look after man-power planning in the field of teacher education   Similar cells may be established at the state level, under the State Board of Teacher Education, which would work hand in hand with the NCTE.   This at once becomes very urgent as we would need to assess the requirement of different types of teachers for handling modified and additional subject matter of the new curriculum

9.3.3   *Norms and Criteria for Accreditation*

The most difficult task in Indian education, particularly in teacher education, has been to enforce rules and regulations on the institutions for maintaining the minimum standard of education   Generally, fear is expressed that in experimenting and diffusing innovations, which require freedom, one is siezed with the anxiety of lowering the standard of education.   There is also an apprehension that an attempt to spread education to remote places through decentralised agencies, might also result in lowering the standard   In order to maintain standards of teacher education at all levels it is strongly recommended that the NCTE may develop certain norms and criteria to be fulfilled by teacher education institutions.   Some exercise in this direction has already been done   Steps may be taken to finalise these norms and criteria, and the NCTE may get them implemented through the State Boards of Teacher Education so far as the primary teacher training is concerned.   The U.G.C. may consider these norms and recommend the same to the universities for implementation in case of institutions preparing students for degree courses.   As and when the autonomous comprehensive colleges of education come into existence, the dichotomy of primary and secondary teacher training will disappear ; and the norms for such institutions will be enforced without much difficulty. It may be added further that the accreditation norms may be scrupulously enforced on the teacher training institutions seeking recognition or affiliation.

9.3 5   *Administrative Control*

No single agency can be in a position to control such a gigantic structure of teacher training programmes to be implemented at various levels. It is, however, suggested that the N.C.T.E, may be given necessary powers and authority to look after the overall growth and development of teacher education in the country.   The N.C T.E. should exercise control over the matters concerning the award of all types of certificates/diplomas/degrees.   If these awards are given after graduation the NCTE should consult and collaborate with the U.G.C., while in the case of under-graduate programmes, it should consult the state agencies

9.3.5 *Some Related Administrative Problems*

(a) Keeping in view the heavy rush of candidates for admission to teacher training institutions, a need is felt that selection of suitable candidates for admission should be made on a centralised basis for which a proper administrative mechinery may be set up at the state level, as is already being done in the case of engineering and medical education in some of the states

(b) It is recommeded that the teacher-pupil ratio should be 1 10   However, other factors like the types of programmes offered in a given teacher training institution and the expectations held in terms of new objectives of teacher education may be taken into consideration while fixing the teacher-pupil ratio which may be increased or decreased accordingly.

(c) The regional language may be the medium of instruction at all levels of teacher education. Nevertheless, sufficient competence in English should be insisted upon so that students may use it as an effective library language.

(d) In order to attract professisonally committed and competent persons to the profession, students with brilliant academic career may first be recruited as teachers and later on sent for professional training at the employer's cost

(e) Staffing pattern in teacher education institutions may be reviewed by the U G.C. and the State Boards of Teacher Education. It may be emphasized that without recruiting competent and qualified staff the implementation of various changes proposed in the Framework would be rather difficult, if not imposssble.

9 4 Certification of Teachers

While degrees may be awarded by the university, a provisional certificate or licence for teaching must be granted to a teacher by the State Board of Teacher Education for a period of two years   During this period he may be supervised carefully and, if found satisfactory and promising, he may be granted a certificate   In case it is neccessary, this period may be extended by one year more. In evaluating the teacher's work for this purpose, it is essential to consider his contribution to all the three mojor areas of teacher education, viz, (A) Pedagogical Theory, (B) Working with the Community, and (C) Content-cum-Methodology, including Practice Teaching. Reactions of the school management, staff, students and community to his performance should also be taken into consideration. During this period his professional growth through continuing education along with the contributions made by him to the community life should be examined minutely.

Explanation of Certain Terms and Expressions Used in the Paper

Credit Hours

(i) A course of study is explained in terms of credit-hours work per week. One credit-hour is defined as one-hour a week (doing the smallest unit) for theory subject and two hours a week for practical work. Although ordinarily a course is thought of as a three-hour credit course, it could vary from no credit-hour to six credit-hours depending upon the needs and requirements worked out in terms of the objectives to be achieved for a subject at a particular stage.

(ii) Therefore, the courses of study in various structures are explained in terms of total credit-hours required for a particular programme *and not in terms of years*

(iii) Since a variety of courses in different disciplines may be offered simultaneously, permitting horizontal and vertical mobility, the integrated courses in education as were offered in the Regional Colleges, will require modification Thus, there will be neither one year nor-four-year integrated education course Instead there will be credit courses under two broad categories, i e education as a discipline and education as a task-oriented training

(iv) The major three areas, i e , (A) pedagogical Thory (B) Working with the Community, (C) Methodology and Practice Teaching including related Practical Work, have been assigned weightages in terms of percentage of time to be devoted to each one of them This percentage of time will have to be worked out in terms of credit-hours. This may, therefore, call for slight adjustments in these weightages.

Although full details are provided about the semester system and credit-hours, it is necessary to mention here that a conventional one-year course will comprise 36 credit-hours assuming that an average student would be able to carry 18 credit hour load per semester For example, our conventional two-year teacher training programme after standard will comprise 72 credit -hours (36×2) Now, the weightages of 20%, 20% and 60% could be easily converted into the credit-hours work as 14, 14 and 54. This conversion automatically determines the number of courses that can be offered in the total programme of training For example, seven 2-credit hour courses may be offered under Pedagogical Theory, whereas twenty two 2-credit hours or a variety of combination of courses varying from one to six credit-hours can be offered as training package programme

Pedagogical Courses

The rationale for area A has been already presented in 4 1 1 It is assumed that the experts in the field develop a variety of core and special courses for different levels in education Here a few examples may be presented as illustration for reference. For example, level I, courses on culture, history,

philosophy, social and political evolution, economic development, citizen-ship, national and emotional integration, child psychology, general psychology, sanitation and hygiene, elementary statistics and evaluation, etc , could be offered. The nature of the subject matter of these courses should be substantially different, i e., they should not be offered as a part of a discipline but as helping the student trainee to become a better parctitioner of the principles enunciated in these dis-ciplines. For example, a course on Indian Culture, ought to make him sufficiently aware and appreciative of Indian Culture so that he is able to pass in on to the children In other words, all aspects of our national heritage shoule be transmitted to the young generation through verbal communication and appropriate be-haviour of the teacher. Thus, it is not that the principles of a discipline are to be memorized, but they should be taught in such a way that they develop in him the insight and skills to enable him to promote all-round development of children. There is plenty of scope for offering a variety of courses in specialised areas such as handicapped children, reading, diagnosing and remedial teaching, curriculum, educational technology, etc When these basic courses are developed, it would not be difficult to work out subsequent courses for the upper levels. For example, general psychology may constitute a level I course. Some branches of psychology, such as, educational psychology or social psychology might form the part of Level II coures. In the same way, adolescent psychology may be included in Level III Courses A seminar or group dynamics or adolescent pro-blems may be offered as a Level Il course It is not difficult to envisage that courses undar education as a discipline may include experimental psychology, clinical psychology, physiological, perception, memory, etc It may be noted that these are not exclusive but are over-lapping. Flexibility may be ensured to con-sider the credits gained in such courses towards the partial fulfilment of require-ment for a degree/diploma/certificate.

Working with the Community

The rationale for "Working with the Community" has already been presented. It being a new area poses a very challenging task particularly in view of the failure we have faced in implementing similar social schemes in the past It is precisely for this reason that more attention has to be paid to working out details for this area The main emphasis is to integrate theory with practice and consequently it is already implied that the student-teacher is required to under-take those activities which are conducted directly with the task he has to execute in the school with the children For example, as indicated in Table I, the student trainee is required to carry on activities related to items, 1, 6 and under "Suggested Courses". These areas lend themselves to a variety of activities such as literacy drive, population education, health and hygiene, education, guiding and counsell-ing parents and so on for item No I, working in hospitals, nursing homes, remand homes-village primary health centres, adult education centres, training mothers in child care, health education, nutrition, etc. for item No. 6, and planning and executting a variety of entertainment and recreational programmes for the community in collaboration with the local folk talents, working with *Harijans* farmers and specially people who are engaged in productive vocations for their livelihood for item No. 8. These may constitute Level I activities. Similarly, it should not be difficult to identify a variety of suitable work education for other levels, in relation to the potential items that have been indicated for each stage of teacher education.

Some more activities that come within the purview of community work are listed below for further reference.

(a) Survey of population, its composition, major occupations, carried

on in the community, studies of services provided by various agencies to rural folks.

(b) Extension work in agriculture, such as diffusing information regarding manures and fertilizers for different crops, collection and analysis of soil samples, improved varieties of seeds and techni. ques of cultivation.

(c) Disseminating useful information about various official and private agencies undertaking nonformal and adult education programmes, facilities provided by agricultural extension services, veterinary departments, banks and savings organisations, etc.

(d) Organising nonformal centres of education for dropouts.

Content cum Methodology Courses

A new terminology has been used in order to deemphasize theory in this area, as the main objective of teaching the student teacher methodology of different subjects is to make him more proficient in handling his teaching task. Since it is more an exercise in manipulating a variety of skills intellectual, psychomotor and concerning human relations in the classroom. It is given a nomen clature of 'Training programme Package' instead of a course This implies that the student teacher will be engaged from the initial stages in acquiring skills listed in Chapter V under paras 5 5, 1.5 5.3. Moreover, the Word ·Content-cum-Method' clearly implies that there will be a meaningful integration of the content and method in terms of observable skills developed in the student teacher. It is not any additional content or enriched content separately provided to the trainee in his discipline. It is rather the deeper understanding of the concepts he is required to teach in the school.

Appendix-B

Division of the year into Semesters

Sl No.	Period	Title	Breaks
1.	15th July to 15th November	Semester 1	10th November to 14th December
2.	15th December to 15th April	Semester II	16th April to 30th April
3	1st May to 31st May	Summer Semester I	1st June to 7th June
4	8th June to 7th July	Summer Semester II	7th July to 14th July

Example shown how to define requirements for a degree

Graduation +1 —Year teacher education can be defined in terms of percentage weightages with respect to different courses   To start with a student may be required to take up courses in content (70% weightage) and Education (30% Weightage)   Content weightage can further be divided in terms of major and minor   The relative weightages of major and minor may be decided by the University   For example, it can be 35/35 or 40/30 and so on   Similarly, education may be divided into the recomm nded areas with 6% weightage each to Pedagogy and Working with Community and the remaining 18% to Content cum-Merhedology and related practical work   It is obvious that various combinations of different disciplines can be worked out in terms of percentage-weightages according to the need of the situation and consequently the objectives of the course   Moreover, the courses within each area can be so arranged that accumulation of certain credit hours may be awarded a certificate which can later be taken into account while studying further for a diploma and ultimately for a degree   As can be seen, this enhances flexibility and mobility.   For example, a post-graduate teacher in a school may accumulate 12 credit-hours in the area of content-cum-Methodology during two summer semesters   The requirements for a full degree is 26 credit hours, yet, there is no reason why he should not be given a certificate against the credit-hours he has acquired   Later on, when he accumulates the required credit-hours, he may obtain a diploma/degree